

Envision Havre de Grace!

COMPREHENSIVE PLAN

For the City of
Havre de Grace, Maryland

2025



CITY OF HAVRE DE GRACE MARYLAND

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A MESSAGE FROM THE MAYOR

Thank you for taking the time to check out our Comprehensive Plan, *Envision Havre de Grace*. It is a document that reflects our collective vision and aspirations for the future of our great City and for our unique place within Harford County. Our waterfront, our historic founding along America's colonial highway, and our citizens and businesses through the ages have made Havre de Grace and its built environment the best place to be a part of, whether you live here, work here, are visiting or are just passing through.



You will see that we have grown considerably in the last 25 years, almost doubling in geographic area and growing in population by 65% since 1990. We are part of Harford County's Development Envelope where public infrastructure – such as water and sewer and major road networks – combine to advance growth in a common-sense way. We have grown quickly during that time and we have some catching up to do to stay in front of that growth. Our biggest challenge over the next 10 years is outfitting our water distribution system to meet the demands of growth in addition to serving our sister city, Aberdeen, our borders now touching. With the Susquehanna River as our source, it is our desire to expand our water supply and be capable of greater distribution within our region where urban growth is smart growth.

As a community, we are blessed with a great deal of creative energy in its citizens and stakeholders and we wish to continue to expand our arts and entertainment reach. Many individuals have made significant investments of time, talent, and financial resources over the span of decades in the arts here in Havre de Grace, to include the Arts Collective, the Arts Commission, and Harmer's Town Art Center project just to name a few. We would like to continue to focus our attention in supporting these efforts to make Havre de Grace the premier arts destination in the northern Chesapeake Bay region.

Finally, we have high aspirations for greatly expanded multimodal transportation that takes advantage of our location on Amtrak's Northeast Corridor. With the future replacement of the century-old Amtrak Bridge that bisects our historic town, we are at the edge of an unfathomable federal construction project that will take 10 years to complete. We would like to create true multimodal access within the region between the transit-oriented communities of Aberdeen and Perryville for pedestrian and bike access that allows people choice in transportation outside of automobiles. This vision is ambitious and will take decades to see it completed, but you have to have a vision to be able to get started.

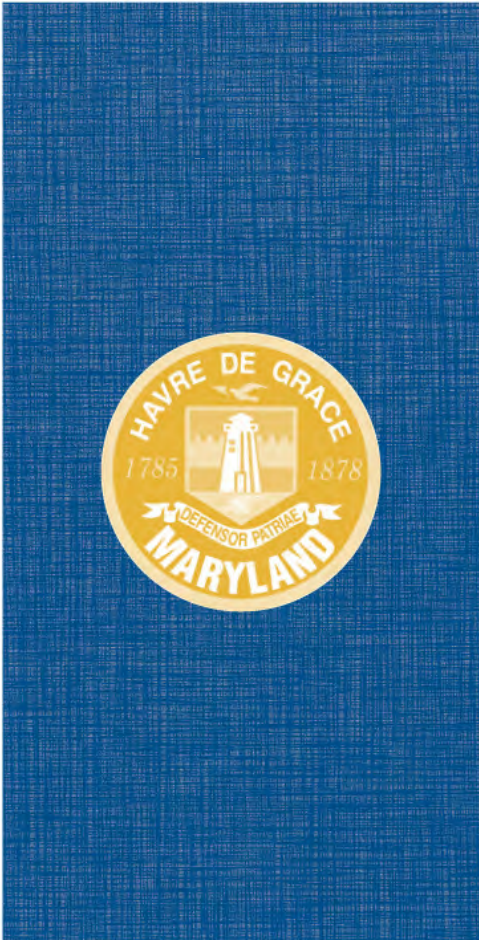
Thank you for joining us in our vision.

DESIGN OF THE CITY SEAL



The Havre de Grace City seal was designed by Mildred Gore Stansbury with Bel Air artist George Van Bibber. As the first Black City Council Member, Mrs. Stansbury was the first African American voted into political office in Harford County in 1964. She and her husband, Russell Stansbury, were educators in the Harford County Public School system, both beginning their careers at the Havre de Grace Colored School, now a museum and cultural center located at 555 Alliance Street.

The Concord Point Light, cannon, and fortification symbols were later translated into the City's flag design in 1998 by Havre de Grace artist Cindy Height.



*"The mission of Havre de Grace
is to maintain and improve the quality of life, services, and
infrastructure in a fiscally responsible manner and to provide
a friendly, safe, economically vibrant, waterfront community
while preserving its distinct historic character for residents
and visitors."*

80 Havre de Grace Strategic Plan, 2008

I: Purpose of This Plan: A Preamble

- A Guide for Smart Growth
- Relationship to State Planning Visions
- City's Relationship to the Region
- How to Use This Plan



PURPOSE OF THIS PLAN: A PREAMBLE

Welcome

to Envision HdG, the City of Havre de Grace's Comprehensive Plan! Havre de Grace is a vibrant waterfront community with a substantial National Register Historic District, beautiful new communities, connections to State and regional parks, and an excellent business base. This Comprehensive Plan is a document that intends to define a vision for the City's growth and reinvestment over the next ten years. The vision needs to be broad-reaching but achievable, setting the stage for policy decisions and law which governs the way the City will look in the future for years to come. It also needs to be founded in fiscal responsibility, working for the benefit of current and future citizens and business stakeholders. Thank you for taking your time to understand our plan for the City of Havre de Grace. It is our sincere hope that you will share in our vision.

Welcome to Envision Havre de Grace! ■



A GUIDE FOR SMART GROWTH

Havre de Grace is an excellent example of smart growth. Initiatives at the State level, the City's proximity to major employers and transportation networks, its waterfront and small-town charm, and fascinating diversity of businesses and citizens all converge to make Havre de Grace interesting and unique within the region. This Comprehensive Plan is developed with these characteristics in mind. Though the plan is a policy guide for land use decisions, it embraces the physical attributes of the City and keeps the human relationship to the built environment at the heart of its purpose.

This Comprehensive Plan is designed to be a guide for the physical development of the City. It was prepared with the intent of educating the public about planning decisions and serves as a document to assist the Mayor, City Council, and staff members as they consider important funding and budgetary priorities. In addition, the Plan serves as recognition of the City's alignment with Maryland's long-standing and admired smart growth initiatives as a cornerstone of intelligent planning and local land use policy.

The purpose of the Comprehensive Plan is to encourage development of a safe, healthy, and distinctive living environment—one that serves the existing community, entices visitors, and stimulates economic development. Also crucial is the desire to retain the small-town aspects of Havre de Grace which so many people cite as being critically important. Historic areas preservation and enhancement remain as a primary planning objective, however, the entire community must be considered in respect to planning and development decisions and programs. Residential neighborhoods, commercial revitalization, and industrial areas must be approached with the same care and thought when policies are planned and implemented.

The City of Havre de Grace Department of Planning, with the guidance of the Havre de Grace Planning Commission, engaged in a review of its 2004 Comprehensive Plan immediately following its adoption of significant amendments in 2010. Those amendments – the Municipal Growth Element and Water Resources chapter – were required by State legislative action in 2006 and provided an increased level of technical analysis for guiding planning decisions. The findings and recommendations included in this planning document serve as the basis for developing subdivision and zoning regulations and, ultimately, a capital improvements program which guides expenditures for necessary public improvements. This Comprehensive Plan is intended to be a reference for community leaders and citizens who are striving to make Havre de Grace a better place in which to live, work, and enjoy an excellent quality of life.



RELATIONSHIP TO STATE PLANNING VISIONS

The State of Maryland has been at the national forefront with progressive statewide land use policy based on both regulation and incentives. Often termed under a general heading of smart growth, Maryland began focusing its policy for heightened land use control over the past twenty years, first with the passage of The Economic Growth, Resources Protection, and Planning Act in 1992 and then The Smart Growth and Neighborhood Conservation Act in 1997. Both of these legislative actions established visions and incentives for steering state-level policy affecting local land use by promoting neighborhood conservation and resource protection while at the same time encouraging economic growth and appropriate development patterns.

Building on these prior initiatives, the State of Maryland's Smart, Green, & Growing legislation in 2009 established the following twelve visions, which provide the basis for planning within the City of Havre de Grace as well as statewide planning efforts.

These twelve visions are continuous threads within this document, sometimes as stand-alone chapters such as with economic development or environmental protection. They underwrite the effort in the State of Maryland to revitalize older communities, to grow responsibly, to protect resources, and to maximize public expenditures. These themes are supported throughout this document to ensure that the City's planning efforts are aligned with the State's and that these universal visions are achieved.

- 1 **Quality of life and sustainability:** a high quality of life is achieved through universal stewardship of the land, water, and air resulting in sustainable communities and protection of the environment;
- 2 **Public participation:** citizens are active partners in the planning and implementation of community initiatives and are sensitive to their responsibilities in achieving community goals;
- 3 **Growth areas:** growth is concentrated in existing population and business centers, growth area adjacent to these centers, or strategically selected new centers;
- 4 **Community design:** compact, mixed-use, walkable design consistent with existing community character and located near available or planned transit options is encouraged to ensure efficient use of land and transportation resources and preservation and enhancement of natural systems, open spaces, recreational areas, and historical, cultural, and archeological resources;
- 5 **Infrastructure:** growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sustainable manner;
- 6 **Transportation:** a well-maintained, multimodal transportation system facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population centers;
- 7 **Housing:** a range of housing densities, types, and sizes provides residential options for citizens of all ages and incomes;
- 8 **Economic development:** economic development and natural resource-based businesses that promote employment opportunities for all income levels within the capacity of the State's natural resources, public services, and public facilities are encouraged;
- 9 **Environmental protection:** land and water resources, including the Chesapeake and coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems, and living resources;
- 10 **Resource conservation:** waterways, forests, agricultural areas, open space, natural systems, and scenic areas are conserved;
- 11 **Stewardship:** government, business entities, and residents are responsible for the creation of sustainable communities by collaborating to balance efficient growth with resource protection; and
- 12 **Implementation:** strategies, policies, programs, and funding for growth and development, resource conservation, infrastructure, and transportation are integrated across the local, regional, State, and interstate levels to achieve these visions.



City's Relationship to the Region

Havre de Grace is located in northeast Maryland at the mouth of the Susquehanna River on the northernmost reaches of the Chesapeake Bay. The City is centrally located between Wilmington, Delaware, which is forty miles to the northeast, and Baltimore, Maryland, which is thirty-five miles to the southwest. These cities are connected by US 40, which extends through the City, and the John F. Kennedy Memorial Highway (I-95), located just north and west of the City. Major rail lines traverse the immediate area, to include passenger service (Amtrak and MARC) and CSX freight.

Havre de Grace is located in the eastern corner of Harford County and constitutes one of the three municipalities in the County. Other municipalities include the City of Aberdeen, located three miles to the southwest, and Bel Air, the County seat, which is located thirteen miles west of the City. Northeast of Havre de Grace,

across the Susquehanna River, is Perryville, which is a small community located in Cecil County. Havre de Grace is connected to Perryville and Cecil County by the Thomas J. Hatem Memorial Bridge and the Millard E. Tydings Memorial Bridge. The Pennsylvania border is twenty miles north of Havre de Grace, and the City is within an hour's drive of Lancaster, Chester, and York. Havre de Grace is forty minutes from Baltimore and Wilmington, seventy-five minutes from Philadelphia and ninety minutes from Washington D.C, making it very central to major international airports. Within a three hour radius of Havre de Grace are the great metropolitan areas of the Northeast Atlantic seaboard, including New York, which constitutes the largest regional concentration of people, urbanization, and economic activity in the United States.



How to Use This Plan

The purpose of this comprehensive plan is to give direction to both public and private decision-makers so that the most beneficial arrangement of land uses can be accomplished as well as the provision of public services for present and future residents. A comprehensive plan provides a basis for informed discussions by the public and its elected representatives on the future development of their community. It also coordinates decision-making within and between public and private activity in the endeavor to achieve a healthy and balanced environment. To be effective, the plan must be accepted, understood, and supported by the elected officials who are charged with the responsibility of decision making and by citizens who recognize the benefits that can result from good planning. It must also be tailored toward the social, economic, and environmental conditions that prevail today while at the same time promote a balance between environmental and historical protection and the provision of adequate services and facilities required by the populace in the future.

The following statements address more specifically the various uses of the comprehensive plan:

An economically healthy balance of land uses is represented in the comprehensive plan which provides a framework for consideration of annexation and rezoning applications.

Development proposals, site plans, and subdivision plats can be reviewed within a more comprehensive frame of reference and not approached on a piecemeal basis.

Improvements to the City's transportation network can be coordinated to provide a more integrated, multi-modal system.

Programs for the improvement and/or extension of public water and sewer systems can be undertaken in a more judicious manner.

Public services and facilities can be provided in a more economical and efficient manner.

Ideally, the comprehensive plan will promote an awareness of social values which result in a wide variety of housing types, densities, and price ranges.

Natural resources, scenic vistas, features of historical and architectural significance, and areas of natural beauty can be more effectively preserved, protected, and integrated into an orderly pattern of development.

1. VISIONS and GOALS

Havre de Grace inhabits a setting that is enviable in its small-town charm and its outdoor connections to a vast waterfront like nowhere else in the region. The City is situated at the very top of the Chesapeake where the Susquehanna River broadens to become the Bay, with parks and protected lands along both ends of our waterfront boundaries. This makes for a unique location based in its historic water access – when waterways were highways – and as a significant point of overland road and rail transportation that developed along the eastern seaboard. Despite all this, it has stayed at a scale that is very human and personal.

In addition and like many places, Havre de Grace at its heart is a community of citizens who care for each other. The spirit of volunteerism runs strong and we keep developing creative outlets to satisfy this natural instinct, whether it be through the community Thanksgiving dinner established over thirty years ago or the annual Candlelight Tour having passed its fiftieth year or the CAT (Citizens Against Trash) Club weekly cleanups. People reaching, helping – it's in our nature.

It is these two things – its people and time-honored places – that make Havre de Grace unique and provide the foundation that will have the City reach its greatest potential for those involved, whether it is as a place you call home, where you choose to locate your business, or as a desired destination based on its intrinsic appeal. These are aspects of Havre de Grace that we wish to grow and envision for the City itself. With this in mind, the following visions are outlined to guide the continuing revitalization and development of the City of Havre de Grace.

VISIONS FOR THE CITY OF HAVRE DE GRACE:

✓ A Healthy Community

What to build on to achieve the vision of a healthy community:

Trails, parks, and a beautiful waterfront that contribute to a year-round outdoor focus, allowing for preventative health and excellent quality of life

Safe community with engaging police officers, mutual aid and support

Locations for physical and mental health and wellness nearby

A community of neighborhoods, where neighbors look out for each other

Community amenities, such as the Havre de Grace Activity Center which has combined senior center supported through the Office on Aging, recreational facilities, and physical activity for kids and people of all ages

Walkable schools, especially the centrally-located new Havre de Grace Middle/High School complex and Havre de Grace Elementary School

Waterfront connections from the Susquehanna to the Bay with access to the open sky, natural world, and trails -- a gateway to the Bay with water sports and leisure, whether it be fishing, wading, hiking, biking or strolling

✓ [An Inclusive Community](#)

What to build on to achieve the vision of an inclusive community:

A diverse community, racially, economically, and culturally

Recognition of its historic racial diversity, place of work, industry, and hard-fought educational facilities (now the Havre de Grace Colored School Museum and Cultural Center, Inc.) – first high school for African-American in Harford County, graduating its first class in 1932

Many housing options, support, and choice, with a need to focus on building missing-middle and affordable housing to recognize all community needs

Support for diverse businesses, minority-owned business (Minority Business Enterprise, MBE) – ethnic minority, gender, and/or military veteran classifications

✓ [A Vibrant, Connected Community](#)

What to build on to achieve the vision of a vibrant, connected community:

Goal of a Reimagined Route 40 as a redesigned regional connecting corridor

Recognition of the accessibility created by Northeast Corridor (NEC) Amtrak and MARC rail access as well as bus transit service through MTA and HarfordLINK

East Coast Greenway, September 11th National Memorial Trail, Lower Susquehanna Heritage Greenway trail connections, and MDOT Bike Spine Network

Innovation, at-home businesses, incubators, small-scale manufacturing that does not need to be housed in industrial complexes, largely as a result of post-COVID evolution of business and remote work

ThinkBig coming to Havre de Grace (being installed now!) to ensure that communications bandwidth and infrastructure is in place for at-home innovation

A cool, quaint downtown, commercial center of activity – support for local business

Economic energy within the region – largest Great Wolf Lodge within a 5 mile drive and focus on the beauty and potential of the Lower Susquehanna/Upper Bay region

Creative energy of its residents and business owners

✓ [An Essential Cultural and Historic Hub](#)

What to build on to achieve the vision of an essential cultural and historic hub:

Arts-focused which rounds out the human experience of creative discovery, with art spaces, outdoor public art, theatres

Three National Historic Trails, a place of national history due to its location where the convergence of the Chesapeake Bay with road, rail, and canal systems joined within northern tidewater Maryland

Local museums and historic interpretation – thematic, connected

Important regional history and how it contributes to understanding heritage

Historic fabric of the City's expansive historic district --- interesting structures, street context intact from its creation in 1782

✓ A Cohesive, People-Centered Built Environment

What to build on to achieve the vision of a cohesive, people-centered built environment:

Build on the historic fabric of the old town waterfront and its unique context

New neighborhoods supporting density, quality and character -- Smart Growth

Focus on walkable connections throughout the whole City, especially in new, emerging neighborhoods as they are designed and constructed

Recycle historic neighborhoods and homes – restore them to make them useful, engaging

Support with property maintenance – health, safety welfare of all citizens

✓ A Green, More Sustainable Community

What to build on to achieve the vision of a green, more sustainable community:

Create a bike and pedestrian focused community to reduce car dependency – perfect location for alternative transportation

Support Green Team creative initiatives to think differently on how to live – local, sustainable food production, conservation, native habitats

Green infrastructure – specifically as related to water quality through projects that improve runoff from the land and living shorelines

Innovative development practices for new, emerging communities

Plant trees everywhere – urban canopy

Sustainable City initiatives – extension of solar array contract, electric vehicle fleet, green building practices, reuse and rehabilitate

✓ A Fiscally-Sound Government

What to build on to achieve the vision of a fiscally-sound government:

Responsible, sound financial practices

Aggressively pursuing grant funding for utilities and green infrastructure

Wise spending, conservative approach to benefit the community

Maintenance as priority – maintain what is here, incremental growth, natural progression/extension of public utilities

Soundness of public infrastructure, build from within

Capital Improvements Program planning that projects 5 to 10 years for planned growth and large infrastructure, restoration projects

Growth of industry and business ecosystem

2. LAND USE: A WHOLE-CITY PLAN

As a small, incorporated municipality, Havre de Grace is not unique in its endeavor to blend its older historic core and the growing outlying areas into one unified whole. This issue is a land use issue as well as a social issue from the standpoint of what makes a city or town function and feel like an integrated community. Havre de Grace is a municipality with disparate neighborhoods – a large, new gated community, established suburban subdivisions, low- to modest-income neighborhoods, and an historic, traditional waterfront town laid out in grid-patterned streets. In addition, the City has established industrial parks, medical facilities, interstate transportation networks, and commercial centers of activity which serve the residents in the region as well as the immediate community. This plan attempts to set a course for land use decisions and planning ideals which solidifies the City's position as a model for smart growth in the State of Maryland and to provide an engaging quality-of-life for its diverse citizenry.

Quality-of-life has different meanings for different people. Certainly within Havre de Grace, it means the beauty of the Chesapeake Bay and access to it – walkable streets and a quaint, small-town feel – interesting building stock that ground residents and visitors in a collective history. Intrinsic to Havre de Grace are its local businesses, a great sense of community, cultural museums, an active citizenry with strong volunteerism, festivals and street events, and National Main Street and Maryland Arts & Entertainment designation, bringing renewed vibrancy to the City's downtown. These are just a few of the quality-of-life attributes that define Havre de Grace. This Comprehensive Plan must be a forward-looking document that recognizes Havre de Grace as a really unique place to be. The City has always been and will continue to grow in that capacity – to be a place where people know their neighbors, where they get involved and take ownership of the future of their City.

A large part of any successful community is its physical planning and subsequent development, parcel by parcel. In Havre de Grace, several obstacles exist, a major one being the fact that US 40 bisects the City, creating the perception of two vastly different communities. This division is amplified by the fact that the large highway separates the two geologic provinces of the coastal plain of the historic center of the City versus the lower Piedmont of the newer communities, with a very pronounced fall-line which is especially noticeable along MD 155. Often, residents refer to themselves or each other as “up on the hill” vs. “down in town”; this statement alone speaks to the perceived differences between neighborhoods. However, there are a great number of geographic strengths within the community to build on – strengths like the waterfront, its historic core, major park systems, rail access, interstate transportation, and continuing buildout of annexed areas. Bridging the divide, real and perceived, is the key to the whole-city approach.

This chapter describes relationships between geographic planning areas of the City with the support of three maps: the *Comprehensive Plan Areas* map, the *Land Use Plan* map, and the *Planning Areas* map which keys the areas to a narrative description. The *Comprehensive Plan Areas* map illustrates the various planning areas within Havre de Grace and immediately adjacent land that may be appropriate to annex in the future for limited growth. These planning area designations include revitalization areas, developing areas, open space, and growth areas. Text describing generalized policies for each planning area is also included. The *Land Use Plan* map illustrates the intended land use policies that are described in the text and show the relationships of land use intensities within Havre de Grace. In

addition to land use intensities, major transportation thoroughfares and pedestrian/bikeway connections are included to show actual and potential inter-connections between older and newer communities. These maps form the basis for other maps within the Comprehensive Plan that illustrate more specific initiatives or land use considerations for overall policy direction.

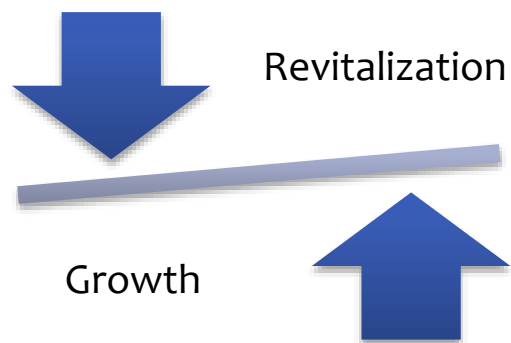
As an identified growth area within Harford County, Havre de Grace benefits a great deal from smart growth initiatives at the State level. Well-planned growth located in transportation corridors and served by public water and sewer service is a basic tenet of smart growth. With that stated, Havre de Grace is in an excellent position to accommodate growth along its borders, along US 40, and to an extent as infill development within City limits. The City is also the recipient of varying grant funding opportunities as a result of focused efforts at the State-level for revitalization of existing communities. Through these funds, private efforts and a solid foundation to start, Havre de Grace is in a successful state of revitalization.

VISION: To have a cohesive, inclusive, people-centered built environment that provides an interesting mix of land uses, transportation choices, and housing options to serve its residents and those that come here to operate their businesses.

Revitalization and Growth – Two Sides of the Same Coin

The two chapters immediately following this one – *Sustainable Community* and *Municipal Growth* – are within this section and also support the whole-city concept. The *Sustainable Community* can be used as a stand-alone plan for the purposes of grant funding and is the City’s strategy for revitalization. It identifies partners for the City’s capital improvement program for revitalization project priorities. These projects outline a coordinated approach to revitalization projects for the older and often historic sections of the City. The *Municipal Growth* chapter is a required chapter and describes the City’s approach to well thought-out growth and fiscal responsibility. It details the capacity for land available with the City, reasonable accommodation for growth, public services needed, financing methods, protection of sensitive areas, and the broader relationship to the region. Working in tandem, the three chapters of this section set the stage for an integrated, whole city – blending old and new.

Implicit within this framework is the need to support these efforts with the extension of water and sewer service and a plan to address aging public infrastructure. This requires a strong capital improvements program that allows for continual maintenance and repair of underground utility assets as well as sustained planning, engineering and funding for the extension of water and sewer service in an efficient and timely way. Strategies to support these efforts are outlined in Chapter 8, *Water Resources: Supply and Protection*.



Gateway to Havre de Grace – Getting it Right

The most pressing issue from a planning standpoint is the coordinated development of the MD 155/I-95 interchange southeast quadrant. Improvements in this area have been incremental in the recent past but major changes will be forthcoming in the next decade. For the City, retaining the

beauty and views of the Chesapeake from this vantage point is primary to future development that is to take place. Nowhere else in Harford County or the region are the views as sublime as those descending from this interchange into the City of Havre de Grace. This is our gateway and we want to ensure that the continued experience is a complementary one that recognizes the important national history here and holds the majestic nature of the terrain in high value.

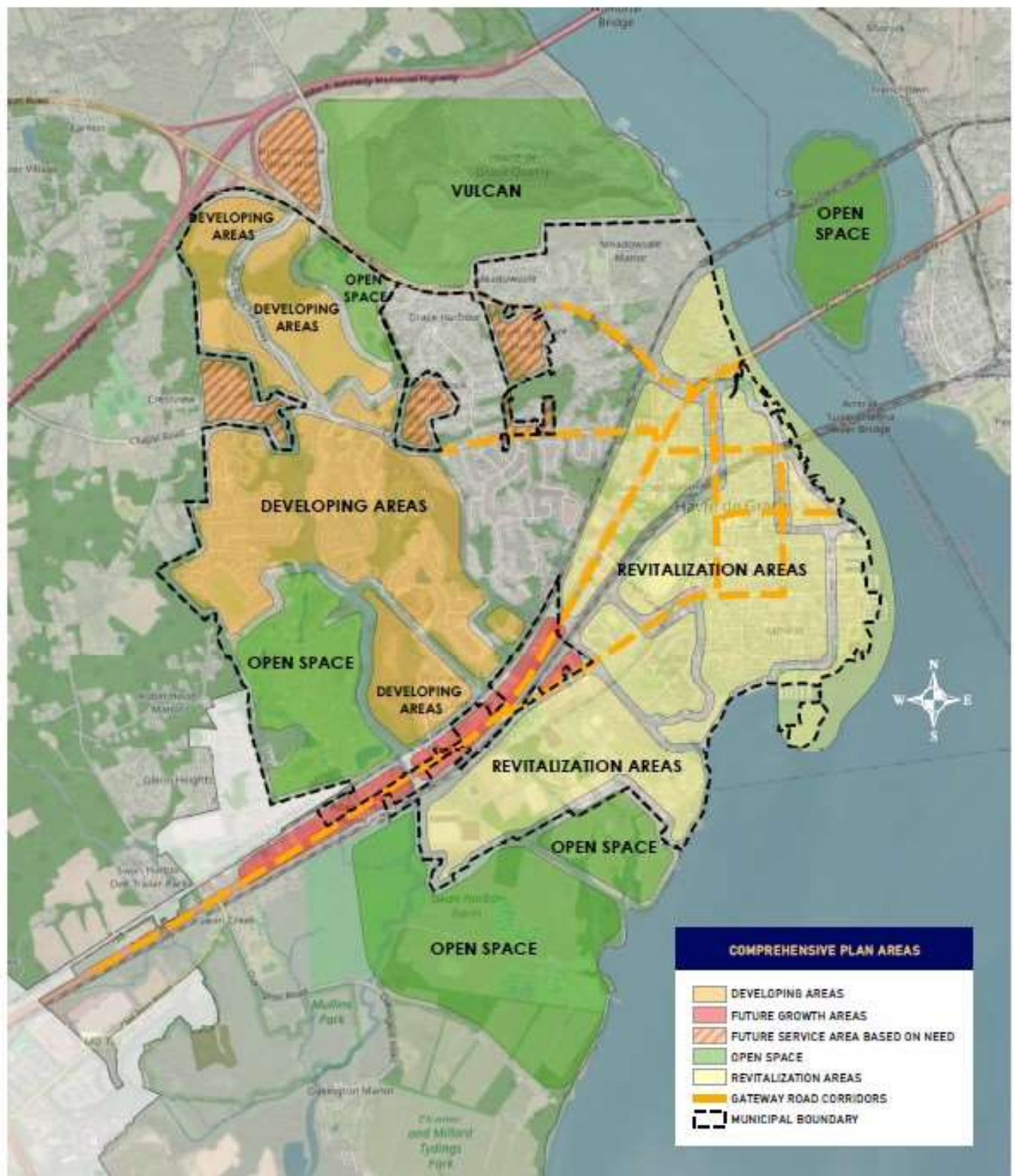
Major development is planned for this interchange with four hundred acres having been annexed since 2000. These were accomplished in two efforts: the Barker annexation in 2001, which includes the University of Maryland Upper Chesapeake-owned site zoned as Mixed-Office Employment (MOE) and the Green, Ianniello, and Patrone annexation in 2014. Both of these will complement the large gated community of Bulle Rock, where integrated pathways are intended to connect these developing areas. Major infrastructure improvements are necessary to accommodate this growth, to include roadway upgrades to MD 155, the interchange itself, and Bulle Rock Parkway as well as water distribution and sewer collection system infrastructure. These are expensive upgrades and must be timed for the phasing of development.

Land uses in this area are intended to be a mix of office space, commercial, and mixed-residential that will complement existing neighborhoods and serve travelers and the region. The main road to serve this area, Bulle Rock Parkway, will require improvements for the increase traffic volume as well as providing safe pedestrian accommodations to the adjoining neighborhoods. Roadway improvements to Bulle Rock Parkway must be done in such a way that it will accommodate increased traffic but designed to keep speeds low and create bikeway and pedestrian circulation between residential and commercial uses. A different, creative way of viewing traffic design is needed here to ensure that the roadway is constructed with pedestrians in the forefront.

The properties at the I-95 interchange are a combination of MOE and Residential Business (RB) zoning. A unified concept plan for Green/Ianniello/Patrone properties was approved in 2020 and individual phases of development are under design. RB zoning designation allows for creativity, ideally allowing for development that recognizes the historic nature of the site and Maryland Environmental Trust conservation easement that was placed on the property to preserve the context and beautiful vistas to the Chesapeake Bay. The properties at this interchange are located at the City's highest elevation and where Harford County's only National Historic Landmark *Sion Hill* is located. Overall sensitive, integrated design is key to honoring this landmark and the remarkable beauty of this Upper Bay terrain.

Planning Area Designations

Planning areas designations have been carried forward from past Comprehensive Plans and reflect a continuum of steady strategy for allowing growth while revitalizing older areas within the City. Areas within the planning scope of Havre de Grace consist of: (a) the older portions of the City located to the east of US 40, which are identified as revitalization areas, (b) developing areas, (c) future growth areas, (d) future service areas based on need, and (e) open space. The overall planning region encompassed in this Comprehensive Plan is bounded by Interstate 95 to the north; Earlton and Robinhood Roads to the west; the Oakington Peninsula to the south; and the Susquehanna River and Chesapeake Bay to the east.



Seven Revitalization Areas are designated on the *Comprehensive Plan Areas* map included in this chapter. These revitalization areas correspond to state targeted growth and revitalization areas within Priority Funding Areas and are fully described in the next chapter *Sustainable Community: A Strategy for Revitalization*. With a heavy emphasis on property reuse, the focus on these seven areas is for continued efforts for revitalization through grant-funding and private investment, streetscape and gateway improvements, successful interpretation and way-finding signage to historic areas, and design guidelines that preserve the context of the historic, small-town character. Each revitalization area is located within the older section of the City and is served by public water and sewer. Any development or redevelopment is considered infill and is estimated in the capacity allowance for infill projects within the *Water Resources* chapter.

1. *Main Street District*
2. *Waterfront*
3. *Old Town*
4. *US Route 40*
5. *Gateway Road Corridors*
6. *Revolution Street*
7. *Industrial Area*

These are the seven revitalization areas described in the following chapter, *Sustainable Community: A Strategy for Revitalization*.

Twelve Planning Areas are described in this chapter and correspond to all other planning area designations, whether they are developing areas, future growth areas, or future service areas based on need. These planning areas are identified by a reference number which directly relate to maps in the *Water Resources* chapter for determining generalized water and sewer capacity calculations. All planning areas, including future growth areas, are within Harford County's Development Envelope for higher density development to be served by public water and sewer and are identified within the State's Sustainable Growth and Agricultural Preservation Act tier system as either Tier I or Tier II. All City growth is predicated on the extension of public water and sewer service. The goal for all these areas as they build out is to meet Priority Funding Area (PFA) requirements of the State of Maryland to ensure future public funding for infrastructure and to meet Smart Growth goals. A parcel-by-parcel map of these designations is included in the *Supporting Resources* section of this plan.

The City of Havre de Grace is located immediately adjacent to Harford County's Deer Creek Valley Priority Preservation Area to the north and is well-endowed with nearby local, state, and federal publicly-protected land. Though this region is traversed by major urban

These are the twelve planning areas identified on the *Comprehensive Plan Areas* map and described in this chapter.

1. *MIXED OFFICE EMPLOYMENT*
2. *GREEN/IANNIELLO/PATRONE ANNEXED PROPERTY*
3. *BULLE ROCK PLANNED ADULT COMMUNITY*
4. *GREENWAY FARM*
5. *LAMPSON PROPERTY*
6. *US 40 COMMERCIAL, SECTION I*
7. *US 40 COMMERCIAL, SECTION II*
8. *SUSQUEHANNA RIVER HILLS*
9. *HAVRE DE GRACE HEIGHTS*
10. *SHAWNEE BROOK*
11. *CHAPEL ROAD PROPERTIES*
12. *CHAPEL ROAD, EXTENDED*

All planning areas are within reasonable proximity to Havre de Grace water and sewer service and include developing areas, future growth areas, and future service areas based on need.

transportation corridors including regional, freight, and commuter rail service, there are many attributes in the region to protect, to include Havre de Grace's historical context and individual historic properties, several ecologically-significant stream valleys, and the riverfront and Chesapeake shoreline. As part of the *Municipal Growth Element* chapter, a map has been included to illustrate the unique geographic relationship that Havre de Grace has to priority preservation areas within Harford County and that is supported by their land use policy.

Vast areas of public and private **Open Space** that adjoin the City are also described in this chapter as they relate to the City directly and provide tremendous regional assets for preserving the City's context. Public and private open space surrounds the City and provides a significant green buffer in every direction. This includes Susquehanna State Park to the north and vast portions of the Oakington Peninsula to the south which has been purchased by Harford County government through their Department of Parks and Recreation. Privately-owned farm tracts which are under conservation easements also protect the context of Havre de Grace. Within this backdrop, the Lower Susquehanna Heritage Greenway, or LSHG, has provided a vision of trail networks, public access, and preservation tools to attract residents and visitors to the region. This relationship is so important that there is a standalone chapter related to the LSHG as part of this section.

Vulcan Materials Company located to the north of the City is a hard rock quarry that mines and transports crushed stone by way of highway and water access. It is described in this chapter because of its large impact and proximity to the City. The Vulcan quarry is an enormous operation that can be seen from travelers on I-95 entering Harford County. This site is immediately adjacent to the City but is governed by Harford County land use and Maryland Department of the Environment for its operations.

Planning Areas Described

The following are generalized descriptions of the planning areas that relate to the two Comprehensive Plan Areas maps and their respective land use intensity as shown on the Land Use Plan map. All identified planning areas are within the Harford County development envelope, the County's growth area boundary. Each planning area corresponds to estimated public water and sewer capacity requirements in the *Water Resources* chapter.

DEVELOPING AREAS:

1. MOE/I-95 Interchange

The Mixed-Office Employment property is approximately 102 acres and was annexed into the City in 2001 with a zoning designation developed specifically intended to create a corporate office park setting to serve as a major gateway to Havre de Grace from Interstate 95. University of Maryland Upper Chesapeake Health purchased the properties after the economic downturn of 2008 with the intention of building an upgraded medical facility to replace UM Harford Memorial Hospital here in the City. Retail and office components were part of this project, however this did not materialize and the property use is undetermined. Considerations for the development of this location include roadway improvements to MD 155 at the I-95 interchange and Bulle Rock Parkway due to a



substantial increase in traffic and the extension of water and sewer service. Improvements to the current water tower infrastructure is required to meet the pressure zone needs of this site and adjoining sites. More details of water infrastructure capital requirement is outlined in the Water System Hydraulic Model Update provided by GHD referred to in the Water Resources Element of this plan.

2. Green/Ianniello/Patrone annexed property

Immediately southeast of the I-95 interchange are several parcels totaling 244 acres that were annexed into the City in 2014. These properties are referred to collectively as the Green/Ianniello/Patrone annexed property due to its combined effort in Annexation Resolution No. 277 and requirement for a unified concept plan for its development. The properties abut Bulle Rock Parkway and MD 155 and are zoned RB which allows for mixed residential and commercial uses.

It is desired that any future development at this location be of a scale and layout that is sensitive to the adjoining National Historic Landmark *Sion Hill* and the property's 50 acre Maryland Environmental Trust (MET) conservation easement along MD 155. This site should be of a transitional nature between the proposed MOE uses directly adjacent to the I-95 Interchange and *Sion Hill*. The above section *Gateway to Havre de Grace – Getting it Right* more fully describes the opportunities that this magnificent site affords.



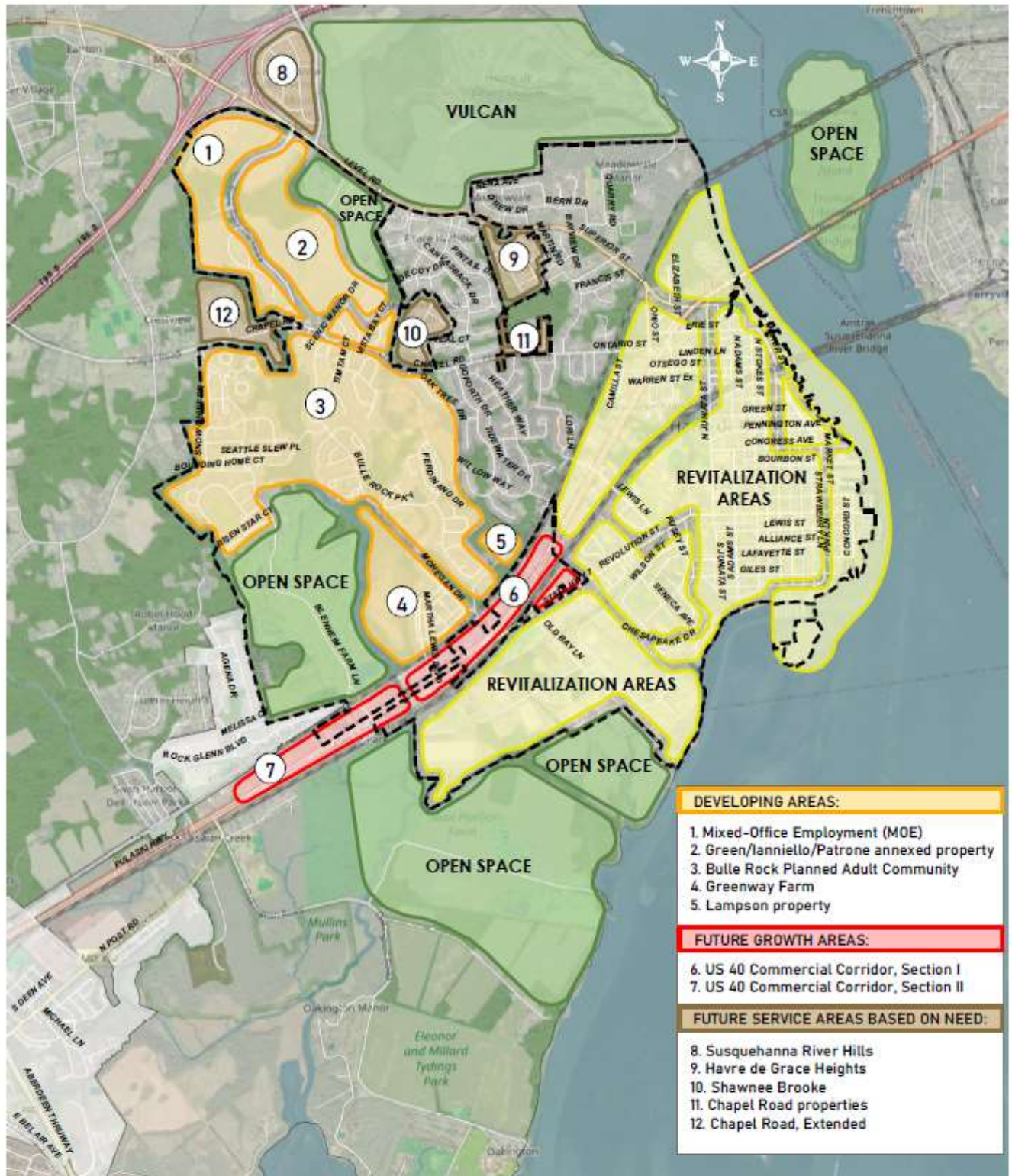
The Land Use Plan map reflects the areas to be protected, medium intensity, and MOE-related land uses. In addition, the City's adopted Tier Map as required by the Sustainable Growth and Agricultural Preservation Act of 2012 show the areas of future planned and no-planned sewer service as related to this site. Please see the Supporting Resources Technical Map for Tier I and II Existing and Planned Service Areas for Sewer for this area and Water Resources Element for infrastructure requirements.

3. Bulle Rock Planned Adult Community

The Bulle Rock Planned Adult Community is a large developing residential community that includes The Residences at Bulle Rock, The Paddocks, and Bulle Rock Estates. It features a two-story, 37,000 square foot community center located at the entrance of the main, gated section of the community with views of the Chesapeake Bay, indoor and outdoor pool facilities, a day spa, tennis, ballroom and reception areas among other amenities. The series of neighborhoods within The Residences of Bulle Rock contain a mix of housing types to include condominiums, villas, and single-family homes.



Over two thousand residential units are planned for this developing area, with close to 75% having been permitted as of January 1, 2023 (569 remaining, total project of 2,126 units). This project was begun in 2002/2003 with the annexation of 617 acres of land and the creation of planned adult community zoning overlay. Bulle Rock Parkway was constructed to access the parcels directly from the MD 155/I-95 interchange for ease of access and future non-residential uses at the MOE



site. A series of trail systems and golf-cart paths are incorporated into the residential sections of this project to access the world-renowned Bulle Rock Golf Course. It is the long-term planning goal to link these private trails with publicly-accessible trails along Bulle Rock Parkway and Chapel Road to full interconnectivity for pedestrians and bicyclists throughout Havre de Grace, connecting residents to employment, service and retail at the MOE/I-95 interchange and to the regional Lower Susquehanna Heritage Greenway.

4. Greenway Farm

Greenway Farm is a 133 acre parcel, located to north of the CSX rail line, which is currently being developed into a mixed-use community of 690 individual residences, to include villas, townhomes, and condominiums. Zoned R-2, the site is surrounded by The Residences at Bulle Rock and its namesake golf course. The development features a shared community center with a pool and planned tennis courts. A substantial bridge was built to access the parcel for development providing a monumental entrance to the neighborhood. Phases II and III are now under construction.



5. Lampson property

This parcel is located north of the CSX rail line between the Bulle Rock project and Bay View Estates and is approximately 23 acres in size. Due to its proximity to other residential communities and limited access via the rail line, an appropriate land use designation is medium intensity residential. This property was annexed in 2022 with a zoning designation of R-1 and is intended to be developed with forty (40) single-family detached dwellings. The site is adjacent to The Residences of Bulle Rock and built in similar character but will be accessed through the Greenway Farm neighborhood.

FUTURE GROWTH AREAS:

6. US 40 Commercial, Section I (to include Mixed-Use Residential)

US 40 Commercial, Section I is largely enclosed by the City's current municipal limits westward to the entrance of Greenway Farm between the CSX and Amtrak Rail Lines. Several properties in this area have been annexed into the City of Havre de Grace on a piecemeal basis. However, the longer term goal of the City is to incorporate all of these properties into Havre de Grace and serve them with public water and sewer. The City will continue to work with Harford County Government with regard to these growth areas and zoning them appropriately for the uses along this segment of US 40, all of which are zoned Commercial Industrial (CI) under the County's zoning. Since on-site public water and sewer are currently unavailable, many of these parcels are undeveloped or under-utilized. A small collection of properties along Revolution Street outside the City limits are considered as part of this planning area. Revolution Street serves as a western gateway from US 40 into the older and identified Revitalization Areas along MD 7 (Old Post Road), including the industrial area and communities along this corridor.

Visual cohesiveness and attractive commercial and mixed residential development is a desired goal, as US 40 is a main feature within the City. To accomplish this, increased flexibility of design is important while at the same time ensuring that environmental resources are protected. The City

has established landscaping requirements and mixed-use options in the commercial zone which ideally create opportunities for better design and more integrated commercial projects. With regard to the remaining Revolution Street parcels outside the City limits, much of this area has been managed poorly in terms of land use and is characterized by incompatible uses or under-utilization of the individual parcels. Annexation would allow for the expansion of more compatible commercial/industrial uses in an area where these uses are appropriate. A primary goal of the City is to strengthen and expand the industrial/employment opportunities within the City. It would also provide the City with more regulatory control in terms of maintenance enforcement and site design in instances of redevelopment.

Continued commercial and mixed-use expansion with a land use designation of commercial is appropriate for future land use along the Route 40 corridor. Consideration of site design for individual projects is important to ensure compatibility between properties along US 40 with a long-term goal of creating better connectivity between parcels and along the highway with a “Complete Streets” approach to future roadway improvements. As an older commercial corridor through Harford County, US 40 often appears as a disparate mix of uses. However, there are opportunities to rethink US 40 as a multimodal corridor that serves the communities along it differently.

Designed and constructed in the 1930s as a dual highway with a generous median, US 40 has a substantial right-of-way that may offer increase bikeway and pedestrian access in the future. The Baltimore Metropolitan Council (BMC) is currently studying a grade-separated pathway along one side of US 40 between Aberdeen and Havre de Grace where pedestrian and bike activity is higher. This would be a tremendous asset in an area of rail access, local and regional transit, major employment centers, and substantial residential growth. This is a very timely study in advance of major rail improvements along Amtrak’s Northeast Corridor.

7. US 40 Commercial, Section II (to include Mixed-Use Residential)

US 40 Commercial, Section II includes the parcels within the Route 40 Corridor from Gasheys Creek westward to Oakington and Robinhood Roads. Harford County zoning designation for these parcels along this corridor is entirely CI (Commercial Industrial) and the City’s land use designation for this corridor continues to be Commercial. Annexation in this area is desired to expand the City’s commercial tax base and to have site design control as this area develops. As described previously in the US 40 Commercial Section I, Havre de Grace must update its zoning regulations to ensure compatibility and good site design in new commercial development along US 40. Visual cohesiveness and attractive development are the desired goals of creating an integrated corridor that is visually appealing and serves to bridge the need for increased commercial and mixed-uses.

Closely paralleling Amtrak’s Northeast Corridor through this region, US 40 extends the length of Harford County east to west from Cecil County into Baltimore. Local and regional transit as well as national rail access serve this region, with rail stations for the Penn Line in both Perryville and Aberdeen and both within three miles of Havre de Grace. As mentioned in the above description, US 40 Commercial, Section I, improvements for safe bike and pedestrian access along US 40 are currently being explored through the BMC, the prospect of which would transform the area between Havre de Grace and Aberdeen into a truly multimodal corridor.

As a commercial corridor, the expansion of commercial uses and the inclusion of residential mixed-uses along US 40 between Aberdeen and Havre de Grace is appropriate. However, consideration

of regional assets, such as Bulle Rock Golf Course, and major stream systems, like Gasheys Creek and Swan Creek (closer to Aberdeen) need to be highlighted as the quality-of-life resources that they are. This segment of US 40 has forested tracts and provides the entrance to amazing publicly-acquired open space on the Oakington Peninsula with unparalleled public frontage to the Bay.

FUTURE SERVICE AREAS BASED ON NEED:

8. Susquehanna River Hills

Susquehanna River Hills is an established residential community located northwest of Havre de Grace in the east quadrant of the I-95/MD 155 interchange in Harford County. County zoning for this community is R1 Urban Residential. Bordered by I-95, MD 155, and Lapidum Road, Susquehanna River Hills is currently serviced by well and septic. There is no apparent need for the community to seek annexation, however public water and sewer would be needed only if wells or septic drain fields begin to fail. If annexed, Susquehanna River Hills is recommended for continued low-density residential uses.

9. Havre de Grace Heights

Havre de Grace Heights is an established Harford County residential community almost totally surrounded by the City. The neighborhood is located in the northwest quadrant of the City and has a Harford County zoning designation of R-2 Urban Residential. Havre de Grace Heights is partially served by City water and has individual septic systems, except for some properties along MD 155 that are supplied by individual wells. This community should be annexed into the City because of the public infrastructure that has been provided to the community and to provide closure to the City's northern border. Efforts should be made to annex this area through tax phase-in efforts and special financing opportunities for water and sewer connections to the City system. If annexed, this community will continue as low-density residential.

10. Shawnee Brooke

Shawnee Brooke is an established residential community with the Harford County zoning designation of R-2 Urban Residential. This neighborhood is bordered by Chapel Road on the south, Scenic Manor on the west, and the Grace Harbour neighborhood on the north and east and is currently serviced by well and septic. Several properties have experienced well problems and have received public water service from the City due to failing wells. Past annexation attempts have been made based on the need for public water but failed due to a lack of community votes. If annexed, Shawnee Brooke will remain low-density residential use.

11. Chapel Road properties

Along Chapel Road are twelve properties with single family homes that are outside the City's limits and served by private wells and septic systems. Eleven of the lots are on the north side of Chapel Road and one is on the south, and they appear as if they are within the City. If annexed due to failing wells and/or septic systems, land use designation would continue as low intensity residential use due to their relatively large lot size. It would also be beneficial along this stretch of Chapel Road to make coordinated improvements to the roadway itself to make it more cohesive in pavement dimension, striping, and bikeway signage.

12. Chapel Road, Extended

On the north side of Chapel Road, between Earleton Road and Gasheys Creek, lie the subdivisions of Crest View and Orchard View Estates. Both of these subdivisions are firmly established areas

and currently served by well and septic. Harford County zoning for these communities is Agricultural (AG). If annexation is sought due to failing wells or septic systems, it is recommended the area be continued as low-density residential. This would support and preserve the current uses and neighborhood character of large lot subdivision. Recorded neighborhood covenants and deed restrictions may limit further subdivision of these large rural residential lots.

Surrounding Open Space

Havre de Grace is blessed with tremendous natural areas surrounding it, to include Susquehanna State Park to north and approximately 1,250 acres of protected land to the south on the Oakington Peninsula now preserved through Harford County Government. The region is known for early Native American contact, vast colonial land holdings now held as public open space, and remarkable historic context with surviving structures. This creates an unparalleled opportunity for context preservation and also its enhancement through the ongoing development of the Lower Susquehanna Heritage Greenway. This section describes the open space that envelops the City and which will form the basis for the City's continued reinvestment and attraction.

Sion Hill (privately-owned)

Built in 1785, *Sion Hill* is a National Historic Landmark, the highest recognition that can be applied to any historic structure in the United States. The significance of this structure does not hinge only on the time period in which it was built and its architectural elements, but the significance of the family who inhabited it and their relationship to Revolutionary History, the War of 1812, and later military history. Maintaining the grounds around *Sion Hill* and Mount Felix (which is the structure that is located on the rise in the middle of the farm fields, and is also historically significant) is important in terms of preserving the context of these structures and the visual beauty of this entrance into the City. A perpetual conservation easement through the Maryland Environmental Trust (MET) was placed on fifty acres (50) adjoining the structure by the property owner in 1990 to preserve the context of the house and views to the Chesapeake Bay. Both *Sion Hill* and the MET portion of this site is designated open space, with a careful preservation of historic structures and outbuildings.

Bulle Rock Golf Course (privately-owned, public course)

Bulle Rock Golf Course is a nationally recognized, premier public golf course which currently offers a club house and restaurant facilities. Opened in 1998, this course was designed by Peter Dye and maximizes the beauty of the original Blenheim Farm. The property was annexed into Havre de Grace in 1999 (2nd addition, 2001) as part of the Bulle Rock planned adult community. The original Victorian mansion house which was featured in the film *Tuck Everlasting* was renovated as an amenity for the existing golf course and is now a private residence. Two sections of single family homes will be built on the golf course as part of the original approved concept plan.

Old Bay Farm (privately-owned)

Old Bay Farm is a beautiful tract of land that rests on the shoreline of the Chesapeake Bay. Consisting of approximately 122 acres, this farm was the home of the late State Senator William S. James and had a permanent MET conservation easement placed on it under by its owner in 1977. The property abuts the southernmost western edge of Havre de Grace municipal limits and is located at the end of Old Bay Lane. Adjoining this property to the southwest is Swan Harbor Farm, a 531 acre tract owned and operated as a waterfront park and wedding venue by Harford County Department of Parks and Recreation.

Swan Harbor Farm (publicly-owned)

Swan Harbor Farm is a 463-acre historic farm that was purchased by Harford County Government in 1995 as one of the last expanses of waterfront directly on the Chesapeake Bay in the county. Located on the Oakington Peninsula south of Havre de Grace, its historic home and beautiful grounds serves as a wedding location, passive public park, and agricultural center for the region. Amenities featured on the property include a 300-foot pier with a pavilion/overlook, the Senator William Amos Maryland Agricultural Education Foundation, the restored eighteenth-century home of John Adlum (friend of Thomas Jefferson), recreated gardens, grounds, and walking trails. As it is a tremendous regional amenity, it is desired that long-term pedestrian/bikeway connections from the City of Havre de Grace to Swan Harbor Farm are accomplished to promote health and reduce the need for travelling by vehicle to the public parks within the urban areas of Harford County. Adjoining lands of Belle Vue Farm and the Tydings Property have also been purchased for passive recreation, trail connections, and public use.

**Tydings property (publicly-owned)**

The 315-acre Tydings property is located on the remote southernmost tip of the Oakington Peninsula and was purchased by Harford County Government as public open space. Known as Oakington Farm and rich in natural habitat, it was owned by US Senator Millard E. Tydings; his heirs sold it to Harford County in 1998. Though it is difficult to access portions of the site, the purchase of the Tydings property expanded the county's access to the Chesapeake Bay and permanently preserves it for public use.

Belle Vue Farm (publicly-owned)

Belle Vue Farm is the most recent open space acquisition by Harford County Government on the Oakington Peninsula, securing the last remaining large tract of natural land with access to the Chesapeake Bay. The 347-acre site was purchased with the assistance of Harford Land Trust with funds from Program Open Space, the Army Compatible Use Buffer (ACUB) program, and Harford County Government in 2020. This significant colonial-era farm (land grant 1661) will be permanently preserved as public open space.

Garrett Island (publicly-owned)

The 200-acre Garrett island is located off the Susquehanna River shoreline of Havre de Grace but is actually part of Cecil County. It was granted to Edward Palmer in 1622 as part of a land grant by King James I and has the earliest documented European presence on the island in 1637. The property is managed by the US Fish and Wildlife Service as part of the Blackwater National Wildlife Refuge. The island is traversed by the Thomas J. Hatem Bridge for US 40 and the CSX Susquehanna Rail Bridge, but limited public access is available at this time.

Vulcan Hard Rock Quarry

Havre de Grace is unusual in that it has a substantial hard rock quarry located just outside its boundary. The hard rock that is mined here is known locally as Port Deposit granite but is actually a form of metamorphic gneiss and has provided the basis for many of the region's historic buildings, foundations, and engineered structures. This industrial use is described here because it

is a major feature on the landscape immediately adjacent to City limits. A Mineral Resources Element is not applicable to Havre de Grace since there are no mining operations within the City. This significant industrial operation – which can be seen from I-95 when entering Harford County along I-95 – is subject to Maryland Department of the Environment (MDE) regulations for its operation and Harford County for its zoning requirements.

Vulcan Materials Company Quarry

Located directly north of the City, the Vulcan Materials Company, hard-rock quarry is a 650-acre crushed stone mining operation. The quarry site contains enough accessible stone deposit to operate for an additional fifty years. It is not anticipated that the Vulcan quarry or their adjacent buffer lands will be annexed, however the City's goal for the site is for potential future reuse of the property as a water source (possible fresh water reservoir) upon completion of the mining operation and for hiking trail connections to the Lower Susquehanna Heritage Greenway. The idea of the quarry's reuse as a fresh water resource is described here in the event that the salt water lens of Susquehanna River becomes problematic over the long-term where the City has its intake pipes south of the Amtrak Bridge.

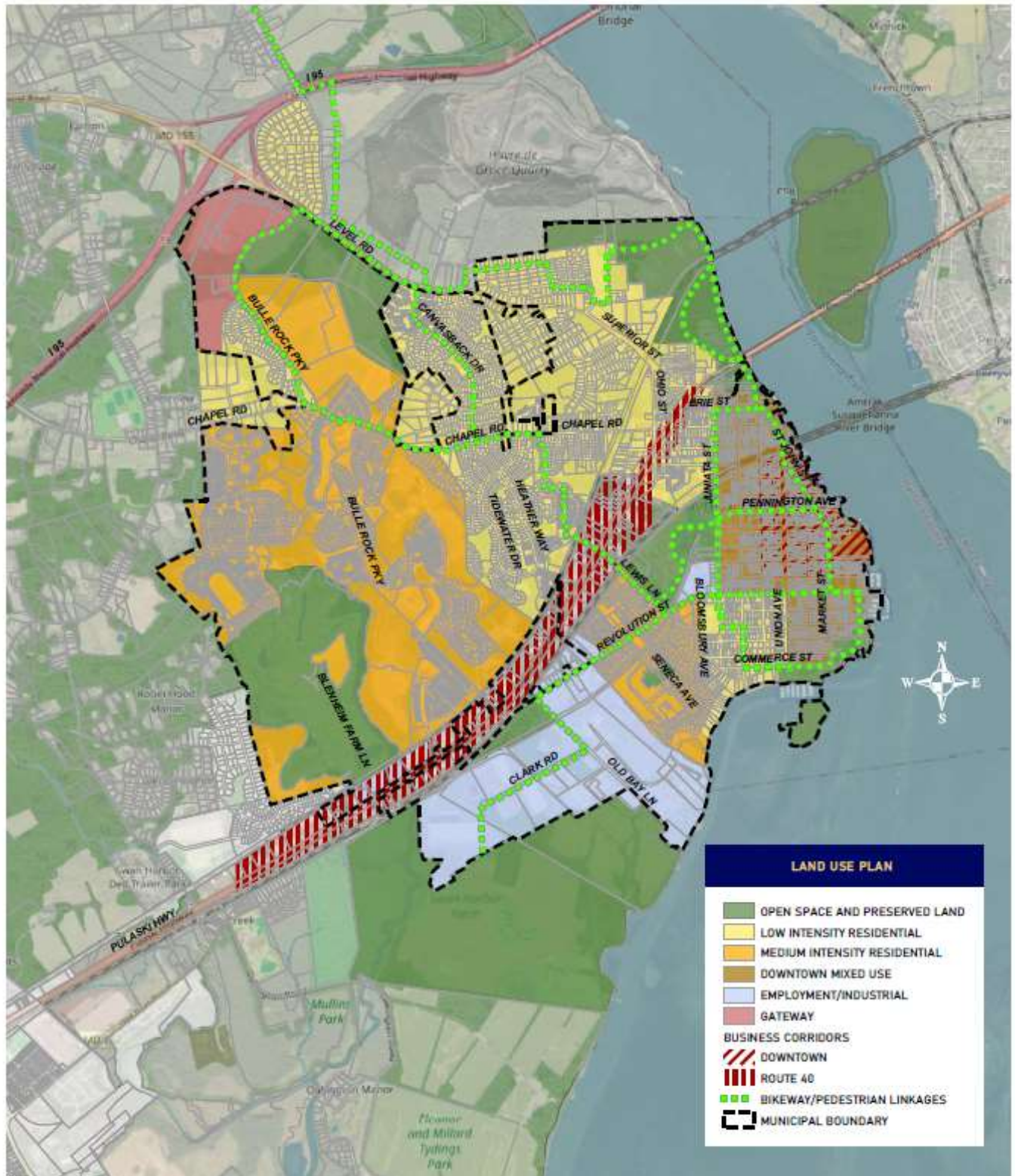
A hiking trail was opened in the spring of 2022 around the Vulcan quarry operation just outside their fenced-in perimeter. This was a huge accomplishment with Vulcan as a partner and an easement held by the Maryland Department of Natural Resources. The trail is located in their buffer and connects on-road trails through the Meadowvale community and the Havre de Grace Ambulance Corps with Lapidum Road and Susquehanna State Park. This trail construction completes a major gap within the LSHG, connecting downtown Havre de Grace to northern trails of the LSHG and 199-mile Mason-Dixon Trail system.

Land Use Plan

Generalized land uses for these planning areas are shown in the Land Use Plan map which depicts the planning area relationships, open space, connectivity, and land use intensity. It is important to identify and organize future land use categories in a manner that can be creatively and flexibly applied to future land uses and be adaptable for classification into the City's zoning code.

The following land use designations are based upon (a) the appropriateness of the recommended land use categories for application within the City, (b) the completeness of the recommended land use categories in addressing the range of potential land uses which should be accommodated in the future, (c) the reasonableness of the recommended densities within each land use category, and (d) the political and social impacts of applying the uses and densities to the areas subject to annexation. Thus, the following land use categories are intended to provide the range of land uses around which site-specific recommendations for the future land use plan will be based.

This Comprehensive Plan provides for 8 major land use categories. These categories provide the context for the designation of the revitalization areas, newer neighborhoods/developing areas, and growth areas. The major land use categories – Low Intensity Residential, Medium Intensity Residential, Downtown Mixed Use, Employment/Industrial, Gateway, Downtown Business and Route 40 Business Corridors, and Open Space – accommodate a general range of land uses.



Residential

Three separate residential land use designations have been selected for the future land use plan – *Low Density Residential*, *Medium Density Residential*, and *Downtown Mixed Use* – with each dominant housing type selected and defined based on its appropriateness for the future housing needs and desires of the City. Density, generally expressed in terms of dwelling units per acre, is representative of that found in contemporary housing developments within communities similar in size and character to Havre de Grace. These density ranges have been carried forward from prior Comprehensive Plans and is reflective of actual density achieved during development. Gross density does not include roads, stormwater management areas, and other infrastructure.

The residential densities recommended are presented in a range to provide maximum flexibility in determining the most appropriate density for any given development proposal. The higher end of the density in the zoning districts is to be applied where individual land use proposals are of a superior quality relative to site design (within the context of recreational and environmental amenities as well as off-site improvements and critical public facilities) and address specific issues and needs raised in the Comprehensive Plan. The following table summarizes the three residential land use designations:

<u>Residential</u>	<u>Density</u>
Low Density Residential (Single-family detached)	2-4 Dwelling Units per Acre (Gross)
Medium Density Residential (Single-family detached and attached)	5-7 Dwelling Units per Acre (Gross)
Downtown Mixed Use (Single-family detached, attached, and multi-family units)	8-16 Dwelling Units per Acre (Gross)

Low Density Residential is intended to provide opportunities for single-family detached residential development at a maximum density of four units per acre. This will permit more flexibility in yard requirements, lot widths, and bulk regulations.

Medium Density Residential provides for the opportunities of single-family detached and single-family attached on smaller residential lots within the City. To a limited degree, multi-family residential uses may be acceptable if considered very carefully within the context of surrounding land uses. The maximum recommended residential density for *Medium Density Residential* is seven units per acre, with a base density established at 5 units per acre.

Downtown Mixed Use land use is intended to address and support existing land uses in the older portions of the City. These are areas where the continuation of traditional historical residential development patterns mixed with commercial retail, multi-family residential, and office uses are desirable. Residential densities of up to 16 units per acre may be permitted in these areas.

Business Corridors – Downtown and Route 40

The *Business Corridors* land use category denotes areas of general business, office, retail, and services uses within the City of Havre de Grace. These are areas that are to be supported with

economic development, business retention, and enhancement strategies, and include the Downtown Main Street District and the US 40 service/retail corridor.

Employment/Industrial

The *Employment/Industrial* land use category denotes areas that are or are desired to be major employment generators for the City and surrounding region. These areas include the Chesapeake Industrial Park, existing industries along MD 7/Old Post Road, and the land immediately adjacent to the I-95/MD 155 interchange.

Gateway

This is a new land use category for the MOE designation at the I-95/MD 155 interchange, and it is a critically important area as it serves as the main entrance to the City from I-95 and is the demarcation between Harford County's Development Envelope and rural areas. Land use is intended to serve appropriately-sited neighborhood commercial as well as limited highway needs and not be residential in nature.

Open Space

This general land use category is to be applied to areas of conservation, preservation, and institutional uses, such as public parks and school sites. Any and all land uses occurring within the Open Space category would be implemented by the adoption of zoning regulations and/or special use permit standards not currently available.

Actions:

GOAL: Within the framework of this *Land Use: A Whole-City Plan* chapter, the primary goal is to allow needed commercial, industrial, residential, civic, connectivity, and open space land uses within the City while preserving the combined historic, business, and natural character. To do this, the City will identify and proactively consider key development and redevelopment opportunities to maximize benefit to the City over a variety of outcomes.

ACTIONS:

- Continue long-term planning efforts to ensure appropriate land uses, adequate public facilities, and transportation modalities (roadway, bikeway, greenway, and pedestrian connections) are incorporated into developments as they are built.
- Recognizing open space and natural resources as key infrastructure, develop a comprehensive natural resources map to preserve sensitive environmental features and guide future development, to include water courses, wetlands, forested areas, historic landscapes, critical habitat, and steep slopes.
- Carefully nurture the City's historic scale and natural setting while ensuring that new development continues these qualities.
- Support the Planning Commission in their role to review and approve site plans and subdivision by providing all necessary information on projects as they move forward from concept to design by providing complete information on projects, regardless of the size or scale.
- Commission site-specific, form-based, integrated planning for the development of new or revised zoning classifications for areas of the City, much like the effort performed for the UM Harford Memorial Hospital site. Areas for this level of study include but are not limited to: the

MOE zoned property at the I-95/MD 155 interchange (now identified under the name of Gateway as a land use category); the former Tranquility Townhomes site; and the downtown Main Street District.

- Identify areas appropriate for redevelopment, such as Tranquility Townhomes site and UM Harford Memorial Hospital, and target appropriate areas for “missing middle” housing.
- Identify underutilized existing developed properties for priority reuse.
- Continue to coordinate with Maryland Department of Planning and Harford County Planning and Zoning with regard to state, regional, and local planning efforts, annexation petitions, and infrastructure and public services planning, as required by law.
- Coordinate with property owners during the annexation process to establish appropriate zoning designations, development concept proposals, and conditions of annexation.
- Work with property owners at the concept plan stage of development to ensure appropriate land use, development design, stormwater management, and road, bikeway, and pedestrian interconnectivity.
- Develop an incentive program to encourage property owners in areas that are surrounded by the City’s municipal boundaries to become part of the City for water and sewer infrastructure. These areas need realistic financial options for annexing into the City and will benefit those owners in the long-term for increased property value and viability of their systems.
- Work with Maryland Transportation Authority, MDOT State Highway Administration, and/or Harford County Government to ensure that necessary roadway improvements during all phases of planning, to include preparation of capital budgets, design, and construction. Specific improvements include: I-95/MD 155 interchange at Bulle Rock Parkway to accommodate major development planned in the southeast quadrant of the interchange; the US 40 Complete Streets implementation to the maximum extent possible, a multimodal approach to roadway design and safety that considers all users of transportation infrastructure; Chapel Road/Ontario Street Extended segment improvements; and general traffic conditions on MD 155 and MD 155/Ohio Street (See Chapter 11, *Transportation: A Focus on Multimodal Options* for more information.)
- Develop a site-specific land use study for the US 40 Corridor to maximize underutilized parcels and create a more integrated, cohesive mixed-use corridor, bringing continued revitalization to the area as well as successfully bridging the east and west sides of the City.
- Work with the Baltimore Metropolitan Council in the continuation of design for the Concept Plan for Bicycle and Pedestrian improvements along US 40 between Aberdeen and Havre de Grace so that long-term improvements may be implemented for safe, active transportation methods.
- Develop design guidelines to further protect the historic architecture, landscapes, and streetscapes of the City.
- Encourage the reuse of existing homes and buildings for the preservation of the City’s unique character and the conservation of resources (reuse, rehabilitate, and recycle).
- Develop a review and approval process for demolitions within the City so that structures are evaluated in a predictable and methodical way. A level of evaluation is specifically needed for historic structures within City-limits but is not necessarily limited to only those.
- Develop a pro-forma cost analysis for absorbing new development into the City’s water and sewer system, including capital, finance, and maintenance cost vs. cost recovery fees and water and sewer charges, to examine the cost of residential development over time.
- Carefully integrate emerging growth areas such as Sion Hill with the rest of the City and within themselves so that they do not become isolated suburban subdivisions.

- Encourage infill development of vacant lots within the established neighborhoods of the City at a scale compatible with existing development.

3. SUSTAINABLE COMMUNITY: A STRATEGY FOR REVITALIZATION

The Sustainable Community chapter of the Comprehensive Plan is a chapter focused on established Revitalization Areas that have been part of the City's approach for reinvestment in its historic core since its 1996 Plan. In that planning document, seven Revitalization Areas were described and encompass all City lands east of the CSX rail line. Though this chapter is not a requirement, it is included here because of the City's long-standing commitment to revitalization and sustainability. It is critically important that the principles of sustainability get carried forward, whether it be Maryland's focus on reinvestment in established communities or the goals of sustainability at large, such as conservation of water, land, energy, and nonrenewable resources, food security, or having a diverse and financially viable economic base. The principles of sustainability should drive the policies in this entire planning document.

The City's seven Revitalization Areas have been recognized as a state-designated Sustainable Community since 2012 when the City received its first such designation following the Sustainable Community Act of 2010. The Sustainable Community Act established a shared geographic designation to promote efficient use of scarce State resources based on local sustainability and revitalization strategies. The program provides grant funding sources, such as Community Legacy and Community Parks and Playgrounds, targeted for areas in need of revitalization. The City received its most recent re-designation with state approval of its third successful Sustainable Community Action Plan in October 2022.

The City benefits by being a National and Maryland Main Street designation and having an Arts & Entertainment (A&E) District designation, both of which are incentive-based programs that overlap with Sustainable Communities as an economic development tool. The City is also part of the Lower Susquehanna Heritage Greenway which is an identified Certified Heritage Area (CHA) and two designated census tracts are designated Opportunity Zones. This chapter will provide 1). An overview of Sustainable Community Act of 2010 and the City's Action Plan; 2). The City's seven Revitalization Areas; 3). Sustainability projects and programs in Havre de Grace; and 4). Goals and actions to further the cause.

The Maryland Department of Housing and Community Development's Sustainable Communities Program is a place-based designation offering a comprehensive package of resources that support holistic strategies for community development, revitalization and sustainability. Led by DHCD, Sustainable Communities has provided local governments with a framework for promoting environmentally, economically and socially responsible growth and development in existing older communities.

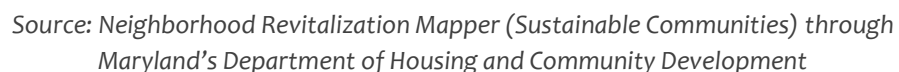
VISION: To make Havre de Grace a green, more sustainable community and a premier example of sustainability in practice through its land use and revitalization focus as well as its program actions.

Sustainable Community Act of 2010 and the City's Action Plan

The Sustainable Community Program is operated through Maryland's Department of Housing and Community Development (DHCD). The 2010 Sustainable Communities Act defines Sustainable Community Areas as places where public and private investments and partnerships achieve:

- Development of a healthy local economy
- Protection and appreciation of historical and cultural resources
- A mix of land uses

- To maintain designation as a Sustainable Community, a jurisdiction must re-apply every five years and develop a Sustainable Community Action Plan. Each Action Plan focuses on the following elements: environment, economy, transportation, housing, community health and quality of life, and local planning and staffing capacity. Staff from the City's Department of Economic Development wrote a strong and successful Sustainable Community Action Plan for which they received a renewed five-year designation in 2022. The following map shows the state-designated boundary for the City's Sustainable Community which is required to be located within a state-designated Priority Funding Area.



Specific areas of focus for the City's Action Plan included accomplishments such as stormwater management and wetland enhancement projects completed near Concord Point between the Havre de Grace Maritime and Decoy Museums as well as the planned renovation/rehabilitation of the former Havre de Grace High School gymnasium and auditorium into a cultural center. Additional accomplishments are the City's transition to solar power for city-owned buildings through its purchasing contract with Constellation Energy in 2016 from the nearby Perryman array and the intentional use of electric vehicles. The provision of small open-air electric vehicles for staff use in 2016 was progressive but electric trolley service offered for visitors during the warm months starting in the tourism season of 2022 was cutting edge, requiring regulatory changes at the state level.

Future goals identified within the Action Plan focus on the control of the demolition of historic structures to encourage the reuse/recycling of old homes and the need to anticipate new redevelopment with the closing of University of Maryland Harford Memorial Hospital. For the full approved Action Plan and its answer to the required elements, please see the link in the inset.

HAVRE DE GRACE SUSTAINABLE COMMUNITY ACTION PLAN
Please see the full Action Plan approved in October 2022 on the
Maryland Department of Housing and Community Development
website.

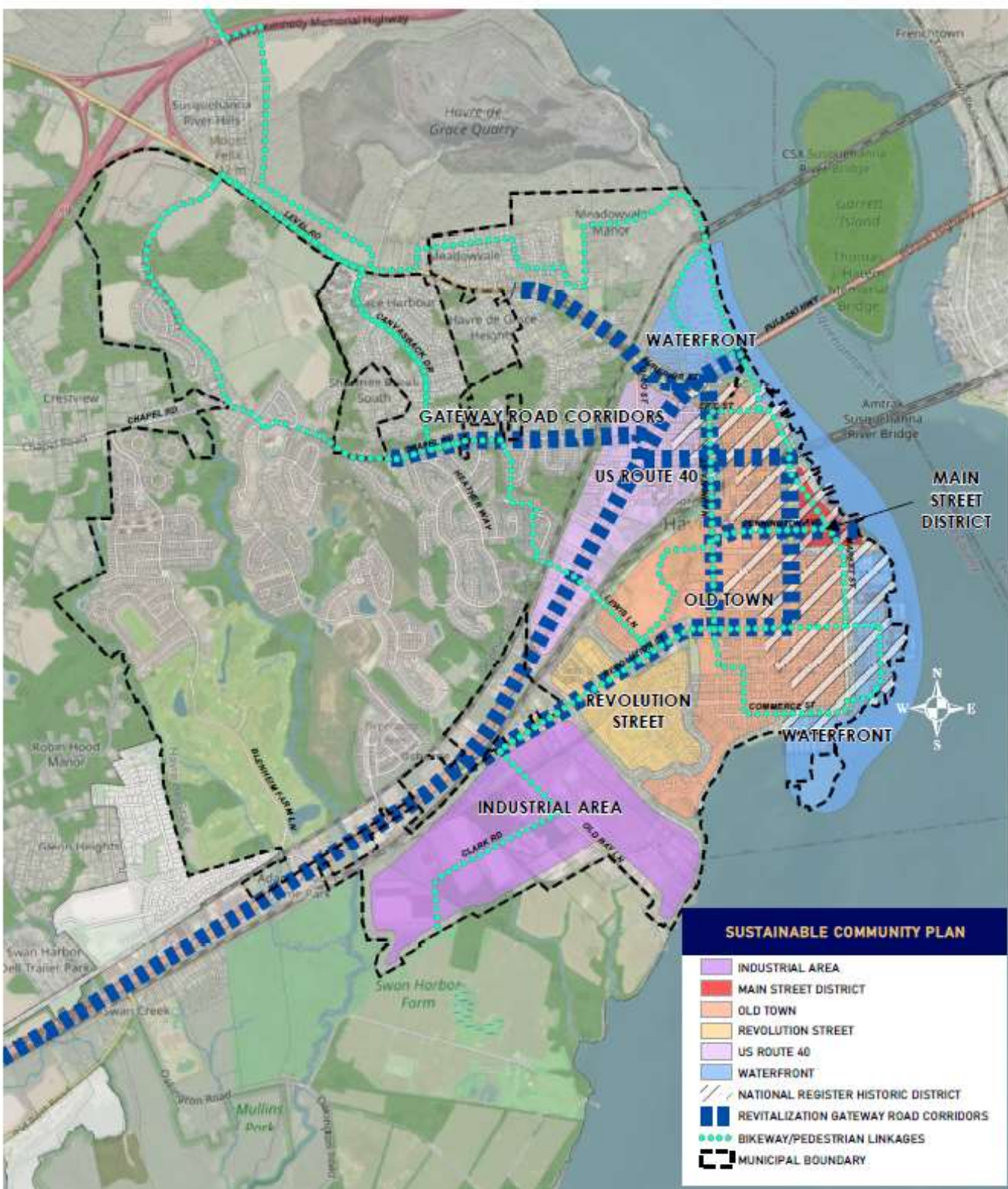
The City's Seven Revitalization Areas

The Havre de Grace designated Sustainable Community is the land mass located east of the CSX rail line to the City's waterfront. It is further divided into seven Revitalization Areas with different strategies or actions related to their location. All are targeted for continuing reinvestment and include areas such as the City's downtown business district, its historic core neighborhoods, gateways, and industrial park areas. The land comprising these Revitalization Areas are what makes Havre de Grace unique – these are areas that established its identity and contain to the greatest extent its historic fabric.

Critical to this idea of sustainability is the preservation of the City's context and authenticity. Maryland's Smart Growth policies dating back to 1997 have supported the reinvestment in existing communities – historic communities such as Havre de Grace. These policies were designed to focus reinvestment and new development in existing communities where infrastructure such as roads, water, sewer, and other utilities are already located. Within this framework, reuse of existing buildings and enhancing the built environment, such as making the walkway and bikeway connections, are significant contributors to improving the City's lived experience. These improvements and others are what make sustainable communities. Each of the City's 7 Revitalization Areas and action strategies are to be described below.

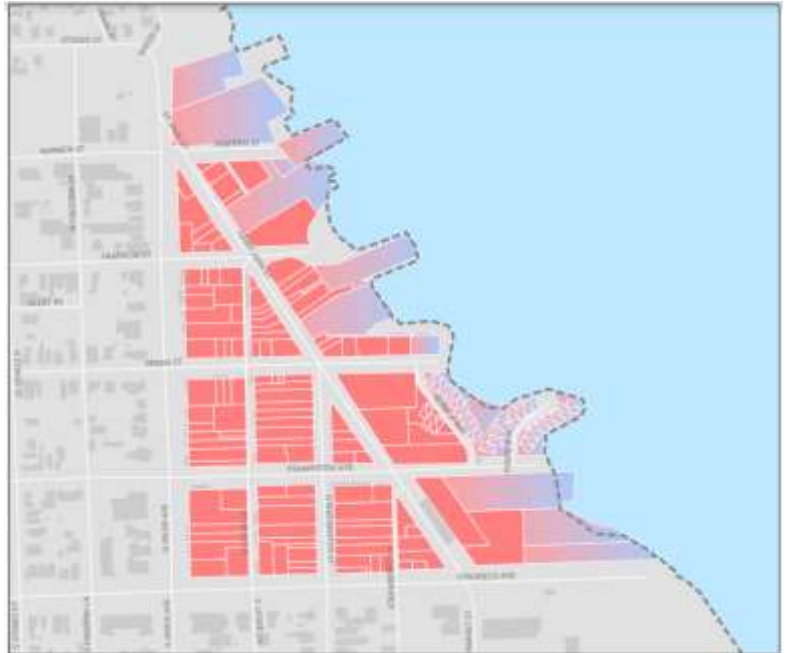
-
1. *Main Street District*
 2. *Waterfront*
 3. *Old Town*
 4. *US Route 40*
 5. *Gateway Road Corridors*
 6. *Revolution Street*
 7. *Industrial Area*
-

Seven revitalization areas that are all part of
the City's state-designated Sustainable
Community



REVITALIZATION AREA 1: MAIN STREET DISTRICT

As the City's downtown commercial core, the Main Street District is the heart of Havre de Grace and is consistently a priority area for revitalization and reinvestment. Fronting the Susquehanna River, the area is bounded by Amtrak to the north, Union Avenue to the west, and Congress Avenue to the south. The existing zoning is predominantly Residential Business (RB), except for some limited areas along Union Avenue that are zoned Residential Office (RO). The entire district is within the City's recognized National Register Historic District, is part of both National and Maryland Main Street programs, and is designated an Arts & Entertainment District.



As many traditional downtowns, the Main Street District is characterized by interesting historic storefronts that stand shoulder-to-shoulder along sidewalks, creating a very pleasant, walkable environment replete with street trees, streetlamps, and artistic up-lighting. City staff are currently working with Toole Design Group for a **Downtown Restoration Plan** for necessary water, sewer, and gas infrastructure as well as designing a renewed streetscape to maximize the opportunity for festivals and events.

Main Street District Actions

- Adopt design guidelines for façade and building renovation so that new construction may be in architectural character with the older historic downtown;
- Construct water and sewer infrastructure improvements as replacements are necessary for the aging lines in the Main Street District;
- Construct sidewalk and streetscape improvements to increase its attractiveness and support festivals as per the Downtown Revitalization Plan, April 2022;
- Provide better directional signage to public parking areas;
- Capitalize on the Main Street and A&E District designations to support its beautiful historic character;
- Continue to connect the Main Street District with areas along the waterfront with a continuous signature sidewalk and potential river crossing for full pedestrian accessibility;
- Continue to provide incentives such as the façade grant program to attract new businesses into this important commercial area;
- Consider refinements to the zoning code for RB/Residential Business and RO/Residential Office zoning classifications to ensure the attraction of business and uses that support the Main Street District;
- Support the Greater Havre de Grace Chamber of Commerce in their efforts for business development and retention.

Main Street District Summary

The Main Street District is largely comprised of specialty retail shops, restaurants, and offices. As a historic, traditional downtown, it is a strong center of mixed-use residential and commercial activity, with apartments and an occasional short-term rental over retail shops on the ground floor. Business attraction and retention is important to the overall sustainability of the entire community. The Main Street District is unique in its immediate proximity to the beautiful Upper Bay shoreline and has excellent access to major highways, rail, and trail networks.

As of 2022, the City has a new initiative for providing electric trolley service from the Main Street District to the attractions along the waterfront for weekend visitors during warm weather months, meeting with great success in its first season. The City implemented a living shoreline project as part of the Water Street shoreline restoration along a public parking lot in this district which improves water quality from its vast macadam surface.

REVITALIZATION AREA 2: WATERFRONT

From the North Park area, the Waterfront is located to the east of Water Street, St. John Street, Market Street and south of Commerce Street to include Tydings Park. Current zoning is predominantly Residential Business (RB). Located along this area are several marinas, many historic buildings and waterfront condominiums, businesses, museums and cultural attractions.

Because the City is located within the Chesapeake Bay Critical Area, special development regulations are applied to tidal waterfront areas within 1000 feet of the shoreline. The majority of the waterfront was designated as an Intensely Developed Area (IDA) by the Chesapeake Bay Critical Area Commission in 1985 and these regulations were recently updated in 2022 to stay in conformance with State requirements.

Floodplain and special stormwater management regulations add a level of challenge to any type of improvement or development project along shoreline areas. The City has been aggressive over the past five years in constructing living shoreline projects to meet Chesapeake Bay restoration goals.



Waterfront Actions

- Continue the City's ambitious program of pollutant reduction to meet Chesapeake Bay Restoration goals and to include private waterfront property owners in the expansion of living shoreline projects;
- As part of the LSHG, continue to develop pedestrian and bikeway connections within the City and to areas outside the City, such as Swan Harbor Farm on the Oakington Peninsula to the south and Susquehanna State Park to the north;

- Explore the development and funding options with the Maryland Department of Transportation for a potential river crossing for full inter-community and LSHG pedestrian and bike access;
- Continue physical improvements on public land within the City, such as the signature sidewalk connections from North Park to the Promenade and redevelopment of park areas;
- Continue to work with property owners in regard to environmental regulations when performing property improvements in shoreline areas;
- Maximize public access, preserving water views, and maintaining an appropriate building scale and height for areas being redeveloped.

Waterfront Summary

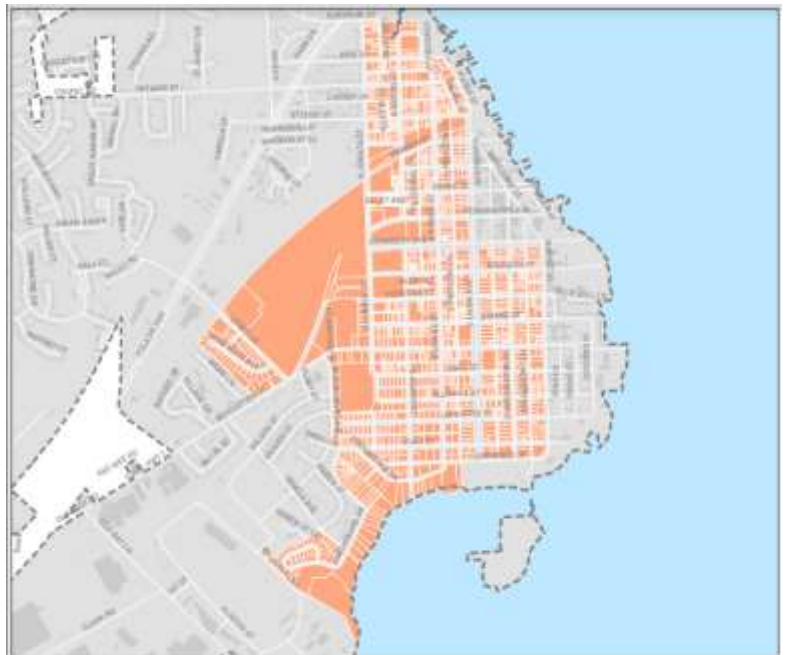
Through the Department of Public Works, the City has been focused on water quality and living shoreline improvements in the Waterfront Revitalization Area. This is due to the requirements of federal MS4 regulations that obligates municipalities to better treat stormwater runoff in older areas. Fortunately, the City has significant public land along the waterfront to meet and achieve the 20% pollutant reduction and continues shoreline and regenerative stormwater conveyance improvement projects as opportunity allows.

Park improvements and regional trail connections are continuing priorities for the City in waterfront areas to maximize views and public access to the water. Park improvements on Water Street will provide additional recreational boat access that is much needed in this high-demand area of the Upper Chesapeake Bay.

REVITALIZATION AREA 3: OLD TOWN

Old Town is a historic residential area that is generally bounded by North Park to the north; Chesapeake Drive and Commerce Street to the south; Market Street, the Main Street District, and Water Street to the east; and Juniata Street to the west. The current zoning is a mix of Residential Business (RB), Residential Office (RO), and residential (R1 and R2) reflecting a mix of densities that are reflective of very traditional neighborhood characteristics. The majority of this area is within the City's National Register Historic District.

The Old Town area has a wealth of historic buildings set within a traditional grid-patterned street system, many of which are lined with large deciduous trees and sidewalks. Alleys or lanes provide for rear lot garage and ancillary building access, trash removal, and utility supply infrastructure. These older portions of the City are a blend of small-lot residential development interspersed with commercial uses, places of worship, civic uses, apartments, and multi-story senior complexes. In the truest sense, the Old Town section of Havre de Grace is representative of a traditional mixed-use city.



Old Town Actions

- Continue to support a mix of uses within the Old Town area, to include offices, residential, and limited commercial uses of a scale in keeping with the established built environment;
- Adopt design guidelines for new construction within the National Register Historic District so that new buildings are designed in a way that supports the historic character of the Old Town area;
- Revise zoning code for the RO district to be reflective of desired uses and appropriate scale of development/redevelopment with the closing of UM Harford Memorial Hospital;
- Work with property owners regarding new development in this area so that improvements are compatible with existing structures and surrounding context;
- Continue to support local and regional transit bus systems as they serve these densely-populated neighborhood areas of the City;
- Continue to ensure that there are complete sidewalk connections throughout the Old Town area that are fully ADA compliant.



Old Town Summary

Of primary concern within the Old Town is the redevelopment of UM Harford Memorial Hospital and its prominence at a key intersection of Union Avenue and Revolution Street. Its redevelopment will set the stage for Union Avenue as a principal historic street for decades to come. Future development must be a focal point.

Tree-lined streets and walkable neighborhoods are what attract residents and visitors to Old Town Havre de Grace and preservation of this beautiful context is intrinsically important. Continuing to focus on reuse/recycling of historic structures and neighborhoods supports economic development through heritage tourism as well as providing a desirable quality of life. This built environment is what makes Havre de Grace unique.

REVITALIZATION AREA 4: US ROUTE 40

The US Route 40 Revitalization Area consists of the US 40 four-lane highway and the adjacent lands along it and is generally bounded by CSX and Amtrak rail lines from the Susquehanna River to the north and current City limits to the southeast. The majority of this area is zoned Commercial (C) with some portions as Residential Business (RB) where US 40 approaches the Thomas J. Hatem bridge. The corridor is

dominated by commercial uses, such as restaurants, auto and truck service, community shopping centers and other retail.

The US Route 40 area is a commercial core that serves the community's basic needs with groceries, pharmacy, auto fueling and service, and convenience restaurants. US Route 40 is the dividing line between older areas of the City and the newer communities but serves them equally for daily retail needs. Because of this, US Route 40 serves as a bridge and should be enhanced as such with pedestrian and bikeway improvements along this State highway under a Complete Streets model. To that end, the Baltimore Metropolitan Council (BMC) performed a study in 2022/2023 for a Concept Plan for US 40 for Pedestrian and Bikeway Improvements between Aberdeen and Havre de Grace to explore that possibility. Additional streetscape improvements and visual cohesiveness between uses would enhance the commercial vibrancy of the area.

US Route 40 Actions

- See to completion the BMC Concept Plan for Bicycle and Pedestrian Improvements;
- Support existing businesses and work to attract new businesses into the US Route 40 commercial area;
- Support and advertise the region's transit networks, to include Harford Transit Link Services with connections to Aberdeen, Bel Air, and Perryville and MTA buses to Downtown Baltimore;
- Work with MDOT SHA for implementing roadway improvements based on a Complete Streets approach to highway design through Havre de Grace, but specifically here on US 40 with safer crosswalks, slower speeds, road design and visual enhancements that slow motorists;
- Enact ordinances that will enhance business location and job development in underutilized properties along the US 40 corridor;
- Work with Maryland Department of Environment for cleanup opportunities and/or enforcement of regulations governing junkyards within this corridor.

US Route 40 Summary

Issues to be addressed in the US Route 40 Revitalization Area primarily focus on unsightly uses, such as junkyards and most recently tire yards, construction equipment yards, and unscreened exterior storage. Existing uses of this nature should be required to provide landscaping buffers and screening. High quality, visually appealing highway commercial development with appropriate design, landscaping, and parking patterns should be encouraged to physically integrate the US Route 40 Revitalization Area to the extent that it is possible.

Continuing to support multimodal transportation options in the US 40 Corridor in general is key to serving all communities in Havre de Grace. This includes existing bus transit and furthering the pedestrian and bikeway connection to Aberdeen which is a bus, MARC, and Amtrak service hub. These connections create alternate methods of transportation thereby reducing vehicle miles traveled which could be transformational for the region.

REVITALIZATION AREA 5: GATEWAY ROAD CORRIDORS

Key Gateway Road Corridors which lead to the older portions of Havre de Grace include: MD 155 to MD 763 to Juniata Street; MD 155/Ohio Street; MD 7 consisting of Otsego Street, Union Avenue, and Revolution Street; and US 40. In addition, local gateways include Chapel Road, Juniata Street, and Pennington leading motorists to the commercial downtown, waterfront, and museum destinations. It is desired that all gateways provide a positive visual experience for travelers and the community alike and that they are attractive and functional thoroughfares within the City.

Corridor planning needs to take into account the needs of non-motorists, such as cyclists and pedestrians, as well as drivers. The City has the opportunity, specifically on the wider local roads like Juniata Street and Pennington Avenue, to redesign with improved bikeway connections. Emphasis needs to be placed on alternative forms of transportation from the automobile and make every opportunity to share the road with non-motorists in order to make the City a destination that places people – whether visitors or citizens -- at the center of the City's planning efforts.

Gateway Road Corridors Action

- Develop individual corridor plans for the identified corridors, but specifically Pennington Avenue and Juniata Street for on-road bike lanes;
- Develop incentives like façade improvement programs for gateway corridors, such as US 40 and Revolution Street similar to those that exist for the Main Street District;
- Support of bus transit and multimodal options throughout these Revitalization Areas;
- Improve Chapel Road for pedestrian improvements; create a cohesive roadway with shoulders and common striping where possible.



Gateway Road Corridors Summary

It is critical that City staff look at ways to enhance the gateway routes for all users, not just drivers. Though there are challenges with steep terrain on the northern edge of the City, there are opportunities to make better connections for residents who do not wish to drive for short trips in town. This adds a great deal to the conversation about sustainability for the City. It is becoming more evident that residents wish to live in a more connected place where there are options to driving, and Havre de Grace has a great start to making enhancements to bike and pedestrian accessibility for both recreation and transportation. This will be an increased focus as was made by citizen comments for this planning document.

US 40 and MD 7 (Otsego Street/Union Avenue/Revolution Street) are primary routes for Harford Transit Link and MTA 420 bus service. Providing comfortable, out-of-the-weather bus shelters and benches would greatly enhance the user experience for transit-dependent residents and other beneficiaries of transit service. Transit service is necessary for many for access to employment, health care, and shopping and should be supported and celebrated.

REVITALIZATION AREA 6: REVOLUTION STREET COMMUNITIES

Revolution Street Communities Revitalization Area consists of the neighborhoods of Bay Brook, Concord Fields, and Bradford Green and homes along Webb Lane. Comprised of older townhomes as well as single-family and duplex homes, these established neighborhoods provide affordable housing for Havre de Grace residents. In addition to the residential uses, Revolution Street provides a core of commercial uses that serve adjoining neighborhoods and the City at large. Existing zoning is Residential (R2) and Residential Business (RB).

The Revolution Street Communities area is in immediate proximity to Havre de Grace Elementary and the Middle/High School complex, making it fully walkable for students for school and after-school activities as well as for the recreational amenities that they provide. Neighborhood pocket parks, a recently renewed stormwater management feature with trails, and the Havre de Grace Green Team community garden and food forest provide inviting community elements that are available to the neighborhood residents.

Revolution Street Communities Actions

- Install pedestrian improvements and safe crossings, especially in proximity of the Middle/High School complex;
- Encourage the redevelopment of the Tranquility Townhomes site, making use of the existing road network and in consideration for the large trees that remain (tree retention to the greatest degree);
- Incorporate neighborhood enhancements, especially street trees where feasible;
- Support the Revolution Street commercial corridor by developing incentives, such as a façade improvement program, to champion neighborhood businesses;
- Support infill development and home-ownership programs.



Revolution Street Communities Summary

From a land use perspective, the redevelopment of the former site of Tranquility Townhomes is a significant opportunity for improvement within this Revitalization Area. Havre de Grace would benefit if this fallow 22 acre parcel would be developed in a way that makes use of the road system, the large established tree base, and potential views to the water if it were multi-story.

Support for neighborhood commercial uses benefits all of Havre de Grace and City staff should investigate opportunities for business development/support services in this area. In addition, continued enhancement of pedestrian and bikeway connections within this area is desired. Within the planning of the LSHG, a long-range goal is to link Havre de Grace to Swan Harbor Farm from Revolution Street and Clark Road. However, potential connections could be made from the National Railroad Corporation rail spur along the edge of the Concord Fields neighborhood. This low-impact track may offer a safer and easier way than Revolution Street which has limited right-of-way for making on-road bikeway improvements.

REVITALIZATION AREA 7: INDUSTRIAL AREA

The primary industrial area for the City includes the Chesapeake Industrial Park on Old Bay Lane and Clark Road and the industries along the western length of Revolution Street. The 130-acre Chesapeake Industrial Park was established in the 1970s and includes the industries of Smucker's Quality Beverages, Dunlop Protective Footwear USA, EFC Systems, Plastipak Packaging, Inc., and Acer Exhibits & Events, just to name a few. With the creation of an industrial zoning category in 2023, the area is now zoned I/Industrial as opposed to C/Commercial.

The 75-acre Maryland Army National Guard site is also located here to the northeast of Old Bay Lane, known as the Havre de Grace Military Reservation. The National Guard is in the process of making substantial facility improvements with construction of a \$16.5 million Readiness Center in 2017 and having broken ground in fall of 2022 for a new \$35.5 million maintenance facility. The site houses the 1297th Combat Service Sustainment Battalion and the 1729th Maintenance Company.

Within the Chesapeake Industrial Park, Clark Road provides the only access to the Oakington Peninsula where Harford County has secured 1,400 acres of open space for public access to the Chesapeake Bay. The City is making incremental improvements to a secured easement for trail access to Swan Harbor Farm and other public lands.



Industrial Area Actions

- Support existing businesses/employers and leverage them as well to attract new and companion industries to located in and around Havre de Grace;
- Conduct an annual needs survey with these and other business entities to identify skills gaps and personnel needs, and advocated for closing these gaps with Harford County Public Schools and Harford Community College;
- Provide gateway signage at both Revolution Street and Clark Road for branding and higher visibility to the industries located at the Chesapeake Industrial Park;

- Seek out strategies to integrate the interests and awareness of this high value economic and employment area with the Main Street District and historic Havre de Grace;
- Continue to improve trail connections to Swan Harbor Farm through the LSHG secured easement at the end of Clark Road, with the potential use of rail spur line for bikeway to Old Bay Lane;
- Provide marked bike lanes along Old Bay Lane and Clark Road; right-of-way is wide on Clark Road.

Industrial Area Summary

The visual appearance of the industrial area is important for attracting and retaining business in Havre de Grace and is indicative of the City's economic health. Over the past decade, roadway improvements to Clark Road and Old Bay Lane have enhanced the entrance and made a smoother surface for the many trucks accessing the site. The City would benefit from corridor improvements along Revolution Street into the industrial areas as well and stately entrance signage for the Chesapeake Industrial Park itself.

The City will continue to improve access through the industrial area for connecting to the broader trail system that is expected to be developed throughout the Oakington Peninsula. The City will explore the use of the rail spur for easier bikeway access than would be allowed by improvements to Revolution Street.

Sustainability Projects and Programs

In addition to the approved Sustainable Community Action Plan and land use strategies for its seven Revitalization Areas, the City as a whole participates in many other initiatives focused on sustainability. The following are short descriptions that outline those efforts. Please see links for more specific information about each program, many of which are made possible through generous volunteers who created these programs and keep this moving forward.

Certified Sustainable Maryland

Certified Sustainable Maryland is a program that Havre de Grace has participated in since 2016. The City has been recertified in 2019 and again in October 2022 with a certification level of Silver with 460 points.



Havre de Grace Farmers Market

The Havre de Grace Farmers Market has been in existence since 1995 when it was first established by the Havre de Grace Chamber of Commerce on Pennington Avenue. In 2015, the farmer's market moved to Hutchins Park but it has since been relocated to St. John Street and the STAR Centre during winter months. This is the only Harford County farmer's market to host winter hours.



Havre de Grace Green Team

Havre de Grace Green Team is an extremely active volunteer organization with the following areas of focus: community gardens, education, zero waste, the great outdoors, pollinators/apiary, heirloom Victory Garden, Think Green/Eat Green initiative, the Todd Park food forest, and food waste composting. Their education programs include environmental and climate change movies which are shown monthly during the winter months.



Solar Projects

The City is the beneficiary of a 20-year purchasing contract with Constellation Energy for a commitment of energy produced from the nearby Perryman array for city-owned buildings. This contract began in 2016 and supplies close to six megawatts of solar power per year for municipal buildings, with a substantial cost savings to the City based on metered use. In addition, the recently constructed Havre de Grace Middle/High School was built with solar panels through 25-year leasing arrangement with Constellation Energy. Thank you to Harford County Public Schools for their forward-thinking approach to large rooftop solar.



*Constellation Energy Perryman Solar Array under construction.
Photo provided by Constellation Energy.*



Aerial photo of the roof-top solar array, Havre de Grace Middle/High School, 2022

Electric Vehicle Charging Stations

Electric vehicle (EV) charging stations were first installed in David Craig Park near the downtown in 2017 and the City has subsequently created focal areas in front of the Havre de Grace Police Station and at the park-n-ride at Otsego and Juniata Street for a total of 13 EV charging stations.

Electric Vehicles

The City purchased 2 GEM E4 open-air electric vehicles for City staff use in 2016. Four open-air electric trolleys, model MotoEV Electro Transit Buddy 12 passenger, are operated by the City as a shuttle service for visitors and residents during the weekends of warm weather months. This is a tourism feature that offers an alternative, greener approach to getting around town the City's various attractions and activities.



Tree City USA

Starting in 1976, Tree City USA is a program of the Arbor Day Foundation which aspired to have a greener, healthier America. It is a program with a 4-step framework for communities to maintain and grow tree cover. Havre de Grace has been a Tree City USA since 2002 and received a Growth Award for the first time in 2022 which demonstrates an increased level of tree care and community engagement.



Bee City USA

Bee City USA is an initiative of the Xerces Society which is an organization devoted to the conservation of pollinators which are essential to biological diversity and ecosystem health. Havre de Grace became a Bee City USA through the Havre de Grace Green Team in 2020 in recognition of the value of bees and pollinators in sustaining our environment and food supply.



Bird City Maryland

The Bird City Maryland mission is to encourage all communities, including campuses, in Maryland to implement sound bird-conservation practices.



As an existing community with access to major transportation networks, both road and rail, Havre de Grace is striving to be more sustainable and is an excellent example of Smart Growth. Areas of continued reinvestment should focus on: expanding the City's tree canopy; completing walking and biking connections for transportation alternatives to vehicles; increasing access to the region's tremendous natural areas through extension of recreational trail systems; and reusing/recycling existing structures, **where it is understood that the greenest building is one that is already built.** The City should embrace the 5 Million Maryland Trees for Climate Progress, to ensure that tree canopy is greatly expanded throughout the City. In

5 MILLION MARYLAND TREES FOR CLIMATE PROGRESS
Please see [Maryland Department of the Environment,](#)
The Tree Solutions Now Act of 2021:
Final Plan for Growing 5 Million Trees in Maryland

addition, Havre de Grace should build on the proximity for rail access, optimizing its location for more sustainable transportation choices.



Havre de Grace Green Team photo during July 4th parade.

“Safer pedestrian and bike access coupled with careful preservation of the environment are key to making a better community.”

-- Comprehensive Plan2022 StoryMap Survey Response

ACTIONS:

- Continue City sustainability efforts to include the continuation of the contract with Perryman Constellation Solar after its 20-year contract ends.
- Continue to model what is possible in a compact City with small open-air electric vehicles for staff use during the spring, summer, and fall seasons as well as the EV trolleys offered for visitors during the weekends during the major tourist seasons.
- Recognize the importance of existing building stock to provide functional homes and to encourage rehabilitation over demolition – the greenest building is the one already built.
- Continue to focus on infill and compact development, enhancing the City as a fully walkable community.
- Continue to emphasize bikeway and pedestrian planning for creating an environment that successfully provides for safe places for active modes of transportation that reduces the need for cars.
- Integrate bikeway and pedestrian planning in new development as it occurs.
- Continue to support volunteer groups, such as the Havre de Grace Green Team, in their efforts to educate the public on the importance of environmental stewardship and to provide services, such as centralized composting locations and valued community gardens.
- Continue to update and approve building codes with current practices for energy efficiency, as required by Harford County to oversee and enforce the International Building Code and International Energy Efficiency Code on behalf of the City.

“Make Havre de Grace a destination place for people who want to experience life without cars.”

-- Comprehensive Plan 2022 StoryMap Survey Response

4. MUNICIPAL GROWTH ELEMENT: A STRATEGY FOR GROWTH

The Municipal Growth Element (MGE) is a required element for municipalities in their comprehensive plans through House Bill 1141 that was passed in 2006. The purpose of this requirement is to ensure that communities are realistically planning for growth, that they can serve that growth with public facilities and resources, and they are able to identify the inherent costs to the public. Through the requirement of an MGE, the State is ensuring that all communities are responsibly assessing land annexation for accommodating growth, can serve that growth, and are successfully coordinating with the counties in which they are located.

This element, or chapter, is designed to provide a detailed and quantitative analysis of the City's anticipated growth over the next twenty years based on a capacity analysis of the areas identified for development. As per the Maryland Department of Planning, this is to assist counties and municipalities to fully consider the capacity of land use, public services, infrastructure, costs, and financing associated with growth before committing resources, and it is intended to help direct future growth in a rational, predictable manner. This element is the basis for making decisions regarding any future expansion through new residential growth and how those decisions relate to future costs borne by local governments and their citizens.

As required by HB 1141, this chapter includes the following sections:

- Anticipated future municipal growth areas outside the existing corporate limits of the municipal corporation
- Past growth patterns
- The capacity of land areas available for development within the municipal corporation, including infill and redevelopment
- The land area needed to satisfy demand for development at densities consistent with the long-term development policy
- Public services and infrastructure needed to accommodate growth, including public schools, libraries, public safety, water and sewerage facilities, stormwater management systems, and recreation
- Financing mechanisms
- Rural buffers and transition areas
- Burden on services and infrastructure
- Protection of sensitive areas
- Relationship of long-term development policy to a vision of a city's future character.

The MGE works in tandem with the *Land Use* and *Community Facilities* chapters to ensure that the land use decisions are coordinated with the need for additional community facilities as well as anticipate the need for additional infrastructure and personnel. These topics are extremely important when talking about a city's future – what City stakeholders want this City to look like and function like in the future, to ensure that the City's visions are met, and that development takes into account impacts to public services and costs for extension of water and sewer service.

According to the U. S. Decennial Census data from 2020, the City's population is 14,807, an increase of 1,855 residents from 2010. Census data from 2010 had the City's population at 12,952 which is a 10-year change of 14.32% or 1.43 annual growth. This is due to major building activity as a result of the City incorporating large land areas through annexation for residential development. Over the past 25 years, the City has annexed just over 1,600 acres¹, largely for residential development. The location of these annexations were to the west of the historic town center as Havre de Grace is bounded by the Susquehanna River to the east, Chesapeake Bay to the south, and large hard rock quarry to the north. These tracts were large rural parcels immediately adjacent to City limits which could easily be served by public utilities and provided a natural progression for the City's growth.

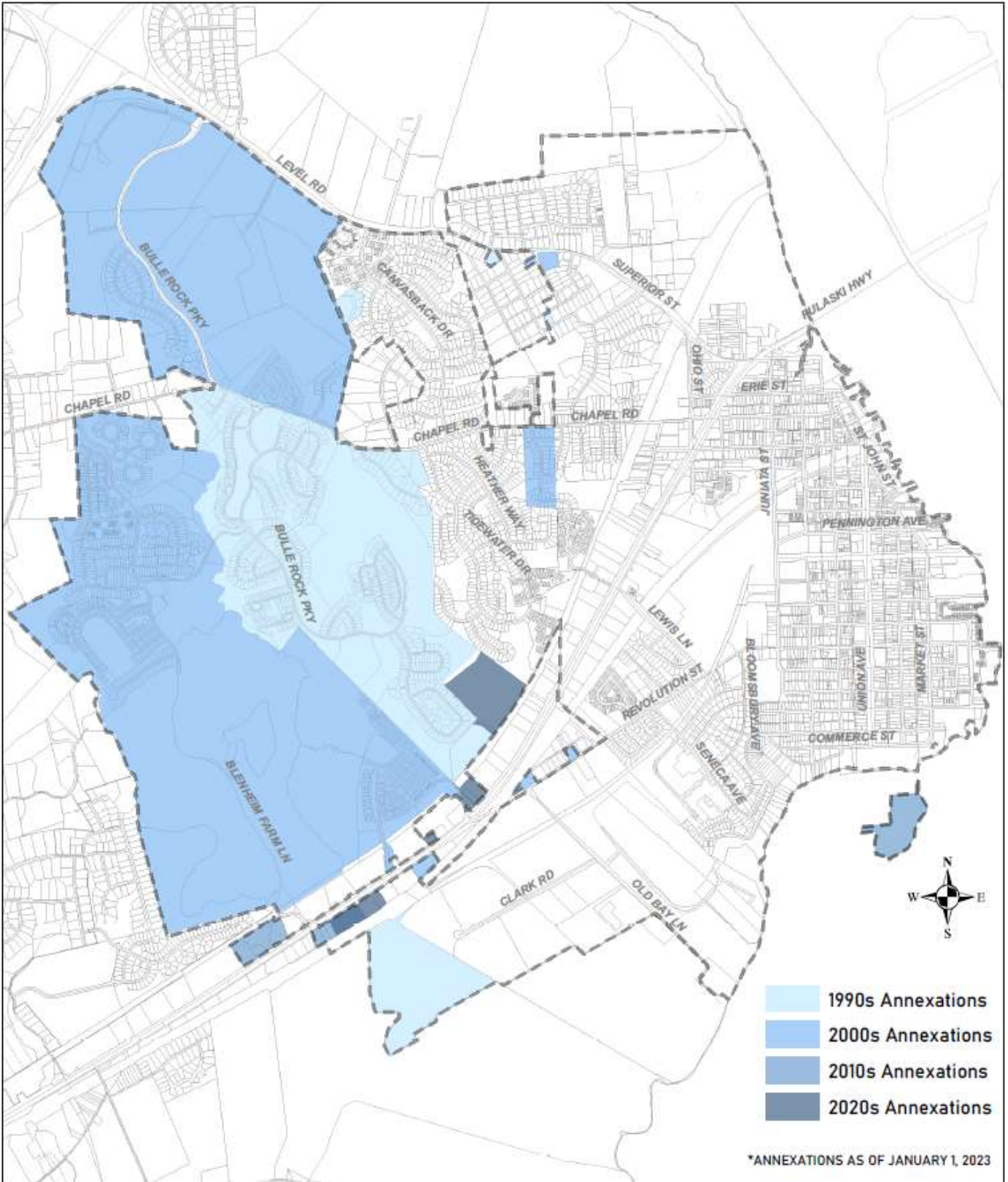
Expansion of the City largely began with the annexation of large land tracts west of the City in 1998. Major parcels were added and the City grew from 3.39 square miles in land area in 1998 to the current 5.90 square miles, or approximately 75%. The map, Annexations Since 1990, shows the annexed properties in ten year intervals, telling the story of growth but with a focus on development within the past 25 years; the year 1998 was the start of major land annexations, also shown on the map. Wastewater treatment plant capacity upgrades were planned in tandem with these major annexations and completed by 2010.

Over the next 20 years, the City will be focusing on the successful build-out of the residential neighborhoods already under construction and areas such as the I-95 interchange MOE as shown in the *Land Use* chapter, areas that have already been annexed. Limited growth opportunities exist along US 40 for commercial and mixed-use projects, and the City will be focusing attention on significant redevelopment projects. These redevelopment projects include UM Harford Memorial Hospital in the heart of the Old Town revitalization area and the former Tranquility Townhomes site.

VISION: To meet the needs of this growing community of Havre de Grace in a fiscally-responsible way.

¹ Actual amount of land annexed into the City of Havre de Grace since 1998 is 1,606.144 acres or 2.51 sq. miles.

ANNEXATIONS SINCE 1990



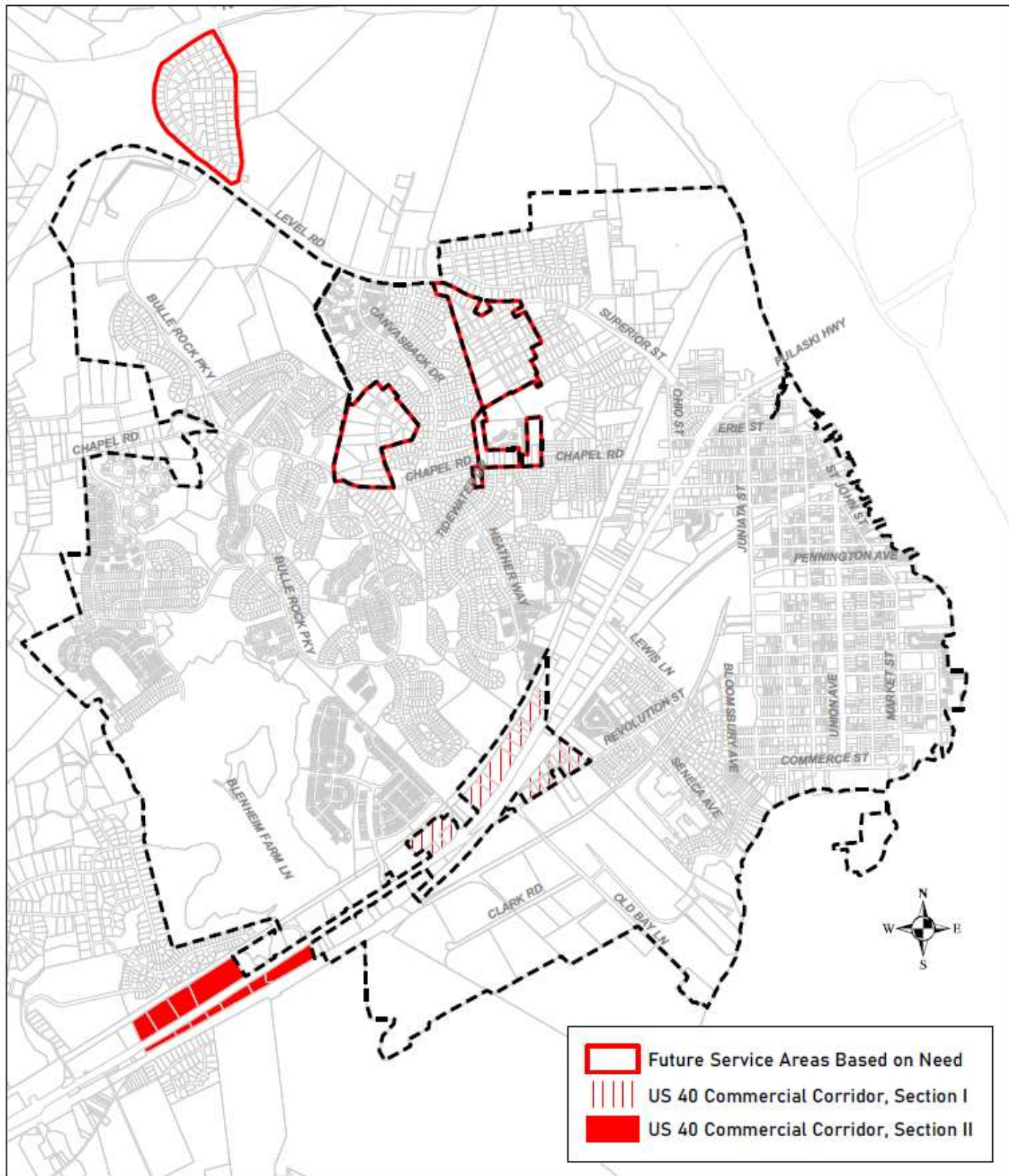
Anticipated Future Municipal Growth Areas Outside of Existing Corporate Limits

With the exception of parcels along US 40, there is limited opportunity for growth outside of the current City boundary. The Land Use Plan map depicts developing areas as opposed to growth areas and the City's focus needs to be on the successful buildout of those areas. Identified growth areas are limited to US 40 Commercial, Sections 1 and 2 where extension of water and sewer services can be achieved. New commercial expansion and redevelopment of existing underutilized parcels is desired to make a cohesive corridor for service, retail, office, and high density residential use. Development buildout may include mixed-use with residential similar to Blenheim Run, an affordable housing project being constructed by Green Street Housing. Continued extension of water and sewer to serve properties along US 40 makes sense environmentally and functionally.

This Comprehensive Plan reduces the planning boundaries from recent past plans where proposed boundaries reached as far west as Earlton and Robinhood Roads. This is a result of the boundaries created by GHD *Havre de Grace Citywide Water System Hydraulic Model Update and Hydraulic Analysis* which was completed in January 2021. This GHD study determined the planning boundaries for water infrastructure specifically as related to the pending sale of finished water to the City of Aberdeen and refined them, recognizing limitations of the City's ability to serve those areas due to treatment plant capacity. The only other identified growth areas are those that are already developed but are currently served by wells and septic systems and may need public water and sewer in the future.

The abovementioned GHD study is ongoing and under refinement as more information becomes available, and the full text of this study is included in the *Supporting Resources* section of this plan. The 2021 study was a snap-shot in time and the dynamic of serving the City of Aberdeen and its effects on the Havre de Grace distribution system is continually being assessed in order to balance the City's growth and the commitment of the sale finished water to Aberdeen to serve its growth. This Comprehensive Plan is not exhaustive and cannot be exhaustive in its description of the modeling that is taking place and being updated regularly. Please reference updated materials for more current information through the Department of Public Works.

FUTURE GROWTH AREAS



Past Growth Patterns

Havre de Grace developed as a colonial era water-centered settlement with a ferry linking the eastern and western shores of Maryland in the late 1600s. It was platted in 1782 and the grid-patterned streets of the historic areas remain as originally configured with wider primary streets of Union and Congress Avenues. Havre de Grace was truly a planned city and that plan expanded in 1799 with a beautifully hand-drawn map of navigable waters, land survey, and inset of the expanded town by C. P. Hauducoeur. This map formed the basis for expansion of the City with remnants of the boundary still surviving. The Susquehanna and Tidewater Canal (1840) and early railroad connections (1837) made this the mercantile center for Harford County made evident by stately historic homes and established downtown business district.

Early coastal routes such as The Old Post Road (MD 7) through the center of town defined the City's relationship to the rest of rural Harford County and the region until the construction of US 40 was completed in 1940, which connected urban Baltimore with Atlantic City, New Jersey. Highway commercial, replete with lodging and restaurants for travelers, was the typical development along this thoroughfare. US 40 was built on the edge of town and effectively bypassed it at the time; it also came to define later residential development and its relationship with the older sections of Havre de Grace in the sense that the highway provided a division between the older portions of the City and newer post-war neighborhoods. With its opening in 1963, the construction of I-95 again bypassed Havre de Grace a mile from the edge of the city-limits. I-95 defines the outermost edge of the City's boundary today as well as Harford County's Development Envelope, its urban growth boundary.

Residential development occurred in concentric rings around the old town core, moving north and westward away from the waterfront, the only direction that the City could grow. Havre de Grace had well-paced growth in the decades following World War II and development followed expected patterns of the times, whether in elongated grids or later, more organic cul-de-sac configuration. Just as the rest of Harford County had major subdivisions built in a development surge in the 1980s, Havre de Grace had large-scale neighborhoods emerge "up on the hill", such as Grace Harbour and Bay View Estates. These developments were designed in the typical suburban subdivision fashion of single family and townhouse residences with curvilinear road networks. They brought an influx of families into the community and provided a place to grow at a time of generalized population expansion county-wide.



In the past 25 years, Havre de Grace has experienced a surge of residential growth with several large subdivisions taking place. Bulle Rock, a large planned golf course community, was designed as a mixed residential community with a combination of single family homes, villas, and condominiums. It was a well-planned community with significant amenities, such as trail systems for golf carts and pedestrian use. As the City's largest subdivision at over 2100 units, Bulle Rock is still being built-out. Other large projects include Greenway Farm with its bridge entrance off US 40 – currently with Phase 2 of 3 being developed - and Scenic Manor on Chapel Road, now complete. Remaining large-scale residential projects are located closest to the I-95/MD 155 interchange which include Sion Hill Estates and The Legacies subdivisions. Havre de Grace, like other towns and small cities, has been the focus of Maryland's Smart Growth initiative which concentrates new development where it can be supported by water, sewer, and road/highway infrastructure.

Capacity of Land Area Available for Development

As of January 1, 2023, there is development capacity for approximately 1,685 new residential units within the City², which includes the buildout potential for Greenway Farms, The Residences of Bulle Rock, Blenheim Run, Green/Ianniello/Patrone annexed property, and residential infill. This does not include the potential redevelopment of UM Harford Memorial Hospital property due to the fact that project density is unknown at this time.

The following table shows the residential development capacity for Havre de Grace as of January 1, 2023. Please note that this information reflects known and estimated development capacity based on permit applications at the start of 2023. Some project totals may be subject to change or future refinement as projects are submitted for review and approval.

PROJECT NAME	NUMBER OF DWELLINGS
Residential Infill Factor	75 units
The Residences at Bulle Rock – mixed residential types	569 units
Greenway Farm, townhouse project	284 units
Blenheim Run, affordable housing apartment project (111 total)	60 units
Lampson Property, single-family detached homes	40 units
Bloomsbury Park (formerly Tranquility Townhomes site)	150 units*
Juniata at Superior Street	7 units
Sion Hill Estates	140 units
Green Property, single-family detached and townhomes	260 units*
Ianniello Property, townhomes and multi-family	100 units*
TOTAL ESTIMATED RESIDENTIAL CAPACITY	1,685

* These are estimated number of units

Over the past 10 years, the permit activity for new residential construction has had a range from 34 to 129 units with an average of 73 units per year. With this average in mind, the City has over 20 years of development capacity remaining.³

Because of the large annexations over the past 25 years, Havre de Grace has incorporated the land area needed to satisfy demand for residential development at densities consistent with long-term policy. Areas that were annexed are consistent with State Smart Growth policies and meet the requirements of Priority Funding Area (PFA) designation, to include: the extension of water and sewer service to those areas; densities that achieve 3.5 units per acre; that the growth plan is consistent with projections; and that the PFA size is large enough to meet 20 years for projected growth. Please see map for Priority Funding Areas included in this chapter.

² Based on Residential Development Capacity reporting to Maryland Department of Planning, January 2023

³ Actual build-out based on past 10-year rate is 23 years. The residential development capacity does not include any potential redevelopment of the current UM Harford Memorial Hospital site.

State Smart growth policy is based on concentrating development in those areas where infrastructure – such as roads and public water and sewer services – already exists. In addition, the City development policies are in keeping with Harford County development policies where higher density growth is directed to the Development Envelope. Major opportunities exist in this region for serving the residential growth needs due to the City’s proximity to Aberdeen Proving Ground. Our combined regional efforts with the support of Harford County Government need to be based in Smart Growth ideals which concentrate development in these areas with public water and sewer and where the existing road network can handle increased traffic.

Land Area Needed to Satisfy Demand for Development at Densities Consistent with the Long-Term Development Policy

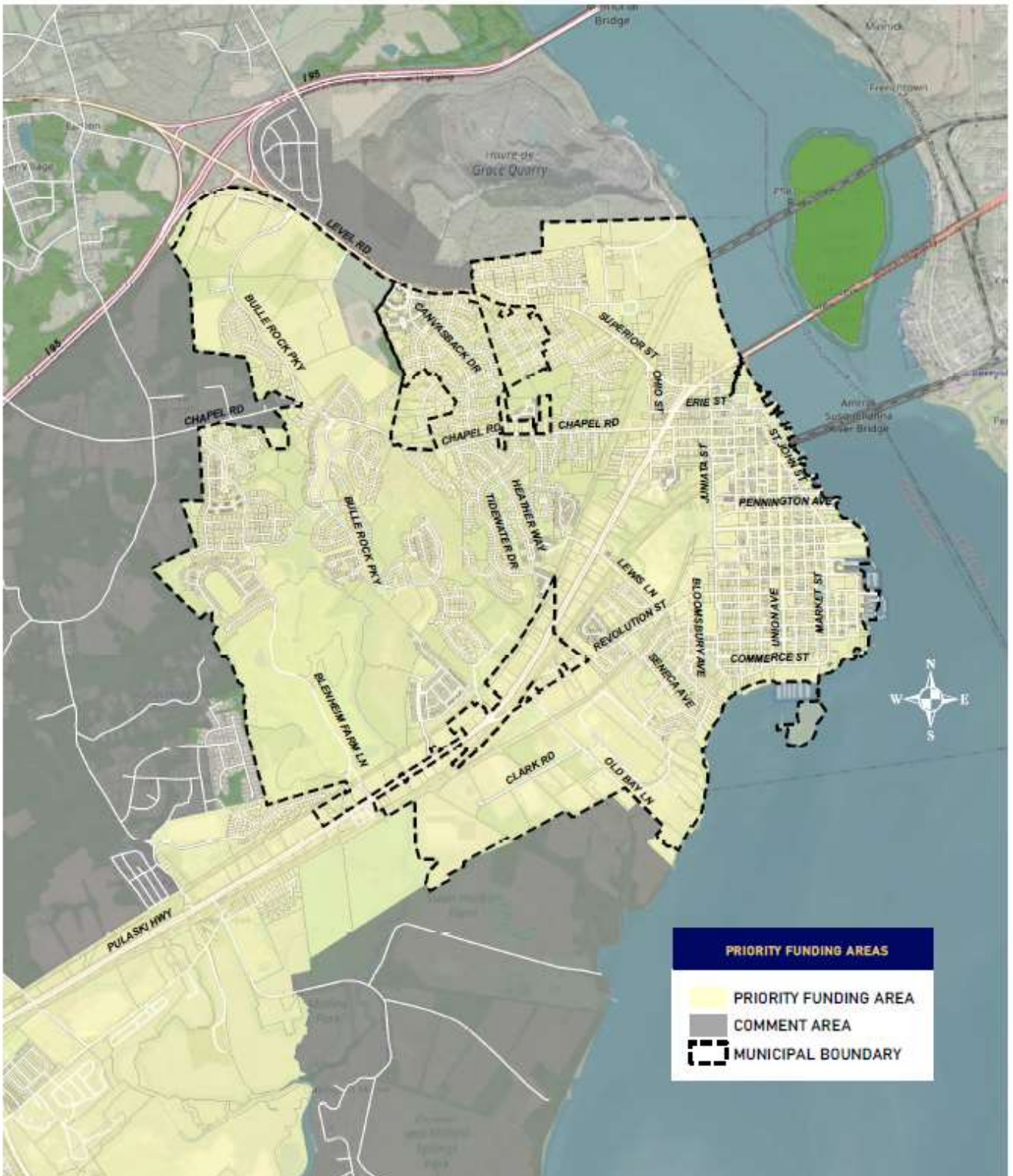
The long-term development policy is to successfully serve the areas already incorporated into City-limits through development buildout. Additional residential capacity may be gained in future annexations along US 40 for mixed-use type projects such as Blenheim Run, but the City will have to be mindful of the capacity at both the water and wastewater treatment plants as this occurs. Plant capacities will be the limiting factor for growth beyond the City’s 20-year buildout.

In this Comprehensive Plan update, the City’s planned growth boundary actually shrunk slightly due to GHD water study referenced earlier in this chapter. The focus must be on ensuring that areas already incorporated are served by water and sewer infrastructure and plant capacities. The only other areas may be along US 40 where appropriate for mixed-use development which, at this time is the limit of the City’s planned growth areas.

“What we build will impact how we live.

And how we live will impact our well-being.”

-- Quote from resident within the region



Public Services and Infrastructure Needed

Since the last update of the Comprehensive Plan in 2010 and the first required Municipal Growth Element, Havre de Grace has grown considerably. Enhanced nutrient removal and capacity upgrades had been completed at the wastewater treatment plant at that time and schools in the area were well under-capacity. The City embraced growth and is now at a point that its boundaries are relatively set and focused on ensuring its commitment to serve the areas already annexed. The City and schools are no longer under-capacity.

Updates to the Havre de Grace Branch of the Harford County Public Library were welcomed in 2016 and much-needed upgrades to the City's water treatment plant were completed in 2022. In addition, the City boasts the newest secondary school – opened in 2021 – which is a combined middle school and high school with state-of-the-art facilities. However, major infrastructure improvements are necessary to complete the growth policy established, specifically as related to water distribution in developing areas near the I-95 interchange.

This section of the MGE will describe public services needed to accommodate growth, including public schools, libraries, public safety, water and sewerage facilities, stormwater management, and recreation. For more information on these facilities please see the *Community Facilities* and the *Water Resources Element* chapters of this plan.

Schools

Facility development, operations, and funding for all public schools come under the control of Harford County Public Schools and the Harford County Board of Education. Ten years ago, the City's schools were well under-capacity but due to the growth they are at or over-capacity. This has triggered measures for redistricting secondary schools in this region for the 2022/2023 school year. More significant redistricting will take place for elementary schools in the 2026/2027 school year where students within City-limits will be attending the neighboring Royce-Williams Elementary School. Modifications for elementary school boundaries will affect 3 area schools during this redistricting process – Havre de Grace, Meadowvale, and Royce-Williams. Charts showing actual and projected utilization for primary and secondary schools serving Havre de Grace are provided in the *Community Facilities* chapter which also includes links to the Harford County Public Schools website for balancing enrollment. Please see that chapter for a full discussion.

The Havre de Grace community is grateful and proud of its middle school/high school complex located on Lewis Lane and central to the City. The aging facilities of both of the prior middle and high school buildings necessitated the rebuilding of both in a combined facility. The complex was completed during the COVID-19 shutdown and opened for students in the spring of 2021 when students were allowed to return to in-person classes. The complex was well-designed with walkability and solar gain in-mind.

Libraries

Due to the volume of activity at this location, the Havre de Grace Branch of the Harford County Library was redeveloped on the corner of Union and Pennington Avenues, with construction completed in 2016. This branch grew from 9,000 square feet to 21,000 square feet in area and is now 3 levels, which include: community meeting rooms and offices on the first floor; the main library stacks, periodicals, computer resources, and early literacy and teen room on the second floor; and a flyover with more volumes and a hands-on learning center as its third floor. The previous building was replaced with a larger facility due to the high usage and circulation rate as well as its central location within walking distance of the downtown, schools, and neighborhoods. Its level of activity and residential growth predicated its replacement and

the City benefits greatly from the new library. All branches of the public library system are operated by Harford County Government and direct coordination occurred to ensure that this well-utilized facility was expanded to accommodate the City's growth.

Public Safety: Medical, Fire and Rescue, and Police Protection

Havre de Grace is well provisioned in regard to public safety with emergency medical services of the Havre de Grace Ambulance Corps; fire and rescue consisting of five divisions of the Susquehanna Hose Company; and the Havre de Grace Police Department. Volunteer personnel and Police Department staff are supported by the Harford County Government 9-1-1 Communications and Dispatch Center located in Hickory for communications and response. This Center is central to the County for dispatch, emergency preparedness, and hazardous material response.

The Havre de Grace Ambulance Corps is a volunteer organization responsible for 911 emergency medical and trauma response. A separate organization from fire and rescue, the Havre de Grace Ambulance Corps has a modern facility located on MD 155 (1601 Level Road) with five equipment bays, administrative offices, bunk rooms, crew area, classrooms, and storage. Over 60 members provide emergency medical response to the local citizenry as well as providing mutual aid to jurisdictions within Harford County and Cecil County. Volunteer members with support from paid staff from Harford County consist of a mix of advanced life support (ALS) patient care providers, IV technicians, and basic life support (BLS) patient care providers. The ambulance and support fleet includes 8 vehicles, including two ALS equipped ambulances and other support vehicles for both advanced life support and basic life support.

Since 1902, the Susquehanna Hose Company (SHCO) has proudly provided fire and rescue response for Havre de Grace and the surrounding region. As with the Ambulance Corps, Havre de Grace is fortunate to have the dedicated, all-volunteer organization that provides for the City's public safety for emergency rescue and fire. Due to the fact that SHCO has five divisions and houses within municipal limits, they have an extremely fast response time. SHCO is rated by the Insurance Services Office (ISO) as a Class 1 fire department, which is impressive for an all-volunteer fire department. This is due to their operations and efficiency, the water system within the City, and 911 emergency dispatch for Harford County. This rating will reduce insurance premiums for residents and businesses within Havre de Grace.

In addition to the equipped building facilities located throughout town, SHCO operates five engines, one tower (a specialized ladder truck for multi-story structures), one quint (ladder truck), one rescue unit, a mini-pumper, three boats, a dive unit, a swift water unit, and four utility vehicles. Specialized units within the Company include a dive team and swift water rescue unit, which is part of Harford County's Tactical Rescue Team. The Harford County Tactical Rescue Team maintains units for various rescue needs, with the emphasis on Havre de Grace for water search and rescue as well as rescue during flood events.

The Havre de Grace Police Department includes 36 full-time sworn officers and 9 civilian staff for dispatch, communication, and central records. Centrally located in Havre de Grace on Pennington Avenue next to City Hall, the Department is housed in a modern facility built in 2001. Like SHCO, quick emergency response time – generally less than three minutes – is a tremendous asset for City residents requiring police services. The City's facilities within the Police Department building include a communications and dispatch area, a duty officer's room and officers' work area, records management, processing areas, evidence room, administration offices, and a community meeting space that can operate as an emergency operations center in case of a large-scale public emergency or natural disaster. Generators are located on-site that serve as backup for operating both the Police Department and City Hall in case of a power failure. In addition, the City has its own firing range in a remote area of the City that provides space for

firearms training to local police departments as well as Federal and State agencies. Police vehicles are equipped with mobile data terminals, providing information through a national crime database.

The Havre de Grace Police Department consists of Patrol, Criminal Investigation, and Administrative Divisions. Personnel growth within City government has been focused on public safety and particularly the Police Department. This was required due to the expansion of the City (i.e. larger geographic area/response time/coverage) and subsequent population growth, allowing for additional staff coverage per shift. In addition, the Police Department is expanding its ability to process serious crime scene evidence through a forensics evidence unit. The Havre de Grace Police Department is supported by other agencies in the region, such as the Harford County Sheriff's Office, the Aberdeen Police Department, the Maryland State Police, Maryland Transportation Authority Police, and numerous Federal agencies through mutual aid agreements. Both Computer Aided Dispatch (CAD) and Records Management Systems (RMS) are County-wide and common to all law enforcement agencies.

Several circumstances in Havre de Grace are unique from a public safety standpoint. The City is adjacent to major interstate roads, rail lines, and bridge structures that require extra measures of preparedness for major emergencies. As a waterfront community, Havre de Grace is subject to tidal surge flooding as well as from major rain events flooding interior waterways. This adds a natural hazard element to the local public safety agencies' missions not typical of most communities as well as requiring specialized services for rescues, drownings, and water-related emergencies.

In general, public safety-related facilities have kept pace with the City's growth and demand, and continual facility and equipment updates are important for the community's public safety. Much of the funding for volunteer organizations is provided through Harford County Government's capital budget process. Contributions also come from the City of Havre de Grace and local fundraising efforts by the organizations themselves. The Harford County Department of Emergency Services is funded through the Harford County Government, where cyclical upgrades based on technology improvements are paramount for integrated, interoperable communications. The Havre de Grace Police Department, on the other hand, is funded primarily through the City's budget for operations and capital requirements. These funds come from a variety of sources, to include real property taxes and other taxes, grant funds and local aid, and other intergovernmental sources.

Volunteer recruitment and training is critical to sustaining emergency response, and Havre de Grace is very proud of its volunteer organizations which serve the immediate community and the region in such an essential public safety capacity. The City is dependent on generous volunteers for vital services in medical emergencies, fire, rescue, and natural disaster. The City is equally proud of its hardworking, professional, and highly-trained police staff, who keep the community safe around the clock and who perform fundamental public services on a daily basis.

On a down note, the changing face of hospital services in Havre de Grace has the community concerned. University of Maryland Upper Chesapeake Health (UM UCH) shut down the hospital that has existed in Havre de Grace since 1912 and has consolidated all acute care at the Bel Air location. To support this southeastern region of the county, UM UCH has opened a freestanding medical facility and behavioral health hospital in nearby Aberdeen, but it is not the same as having medical facilities located within the immediate community. This transition occurred in early February 2024. Of concern is the desire for more direct access to hospital services for which the City has enjoyed for over a century as well as the issue of transport of accident trauma victims due to the proximity to I-95 to a full-service care hospital.

Water and Sewerage Facilities

The systems related to water and sewer infrastructure and capacity are continually being assessed to ensure that they are running as smoothly and efficiently as possible. Located at the south end of the City and discharging into the Chesapeake Bay, the wastewater treatment was upgraded in 2010 with enhanced nutrient removal (ENR) and capacity improvements for accommodating growth. It is rated with a permitted capacity of 3.03 million gallons per day (mgd). The water treatment plant is located on St. John Street with intakes in the Susquehanna River as its surface water source. The water treatment plant had major upgrades completed in 2022 and has a safe yield permitted capacity of 3.7 mgd with a maximum day demand capacity of 4.0 mgd. Both of these plants are operated with licensed and skilled personnel and run 24 hours a day.

With regard to wastewater treatment plant capacity and collection system, the City currently utilizes 1,702,250 gallons per day (gpd).⁴ Anticipated increased future demand with all build-out is calculated to be an additional 806,170 gpd. An issue that comes into play when the wastewater treatment plant reaches 2.3 mgd is meeting required nutrient limits, where additional monitoring must take place with Maryland Department of Environment. (Please see Chapter 8, *Water Resources: Supply and Protection*, Wastewater Collection and Treatment section for more information.) As far as the wastewater collection system, extension of service improvements is done during time of development. Department of Public Works crews repair and replace aging sewer lines as needed.

With regard to water supply, treatment, and distribution, the City currently utilizes 1,558,400⁵ gpd, with anticipated future demand from all build-out calculated to be 844,420 gpd. This is a total of 2.40 mgd. This does not include factoring in maximum day demand, where engineering consultant GHD utilizes a factor of 1.54 to allocate for maximum day water requirements⁶. Maximum day demand for build-out utilizing the multiplier of 1.54 is 3.70 mgd. Additional commitments include the sale of finished water to the City of Aberdeen, with approximately 500,000 gpd being provided beginning in fall 2024.

With the commitment to supplying finished water to Aberdeen as well as development growth, major capital improvements are needed for water systems operation. The City is working through this with assistance from GHD for developing a project list and schedule for water systems improvements through its capital improvement program. This is particularly necessary with development near the I-95 interchange. As far as the water distribution system, crews maintain a list of planned capital improvements for replacement and upgrading as there are lines that are inadequate and control valves in need of repair due to aging.

Stormwater Management Systems

Havre de Grace has remained current in its requirement for stormwater management as State law has changed through the decades, with the last passage of updated stormwater management ordinance in 2010, as required. The ordinance adopts more restrictive compliance criteria mandated by the State of

⁴ Based on Wastewater Treatment Plant Capacity Analysis, May 17, 2023, Director of Department of Public Works.

⁵ Based on Water Treatment Plant Capacity Analysis, October 19, 2023, Director of Department of Public Works.

⁶ From Havre de Grace Citywide Water System Hydraulic Model Update and Hydraulic Analysis, January 29, 2021, page 5, Table 6 Maximum Day Multiplier.

Maryland's 2007 Stormwater Management Act. The City adopted its first stormwater management ordinance in 1984 with the purpose of reducing stream channel erosion, pollution, siltation and sedimentation, and local flooding⁷.

Implemented by the Department of Public Works through plan approval authority, stormwater management facilities were required to be designed for quantitative and qualitative control of stormwater runoff. Early development projects that required stormwater management plans were Chapel Heights, Grace Harbour, and Bayview Estates. The land was graded to accommodate stormwater management ponds which were built to retain stormwater runoff within a neighborhood during a rain or snow event.

Driven by State law, stormwater management requirements have evolved since they were first adopted in the 1980s. The City adopted an updated ordinance in 2002 based on the State model which repealed all past stormwater management ordinances including minor refinements to ensure that the City was current with State law administered through Maryland Department of the Environment (MDE). The State passed the Stormwater Management Act of 2007 where regulations were again formulated by MDE. These regulations refined stormwater collection and soil infiltration during storm events so that developed land imitates a more natural condition, such as those areas that remain forested. This progressive approach to stormwater management is called environmental site design and is driven by the need to make substantial improvements to the water quality of the Chesapeake Bay. (Please see the *Water Resources Element* chapter for more in-depth information regarding stormwater management.)

Recreation

Havre de Grace has many varied types of recreational facilities available to its citizens – vast regional parks, recreation complexes with playing fields, and an excellent array of smaller municipal parks unique to the region. Within the region, there are the very large regional facilities of Susquehanna State Park, Swan Harbor Farm, and Eleanor and Millard Tydings Park tract that are publicly-owned and provide over sixteen hundred acres of waterfront open space to the north and south of Havre de Grace. The City itself has many waterfront parks which provide public access to the Susquehanna River and the Chesapeake Bay to include: McLhinney, North, Jean Roberts, David Craig, Frank Hutchins, and the entire cultural district with Concord Point Lighthouse, Havre de Grace Maritime Museum, Decoy Museum, and Tydings Park. These are all connected through sidewalks and marked trails along the City's waterfront.

City residents have the benefit of several generous recreational areas with active playing fields, to include the centrally-located middle and high school complex within the City, a multi-field recreational area being constructed on Chapel Road, and the playing fields at Gravel Hill. Havre de Grace itself also has some excellent regional trail features, such as the Promenade and waterfront pedestrian walkways through old town, the North Park Loop Trail, the Lafayette Historic Trail, bikeways through the City, and connections to the Lower Susquehanna Heritage Greenway and East Coast Greenway. In addition, privately-owned facilities which serve the community include Bulle Rock Golf Course, the Havre de Grace Little League at Stancill Field, and several marinas.

With a State standard of thirty acres of recreational/open space land per one thousand people (2020 census population of 14,807), Havre de Grace is in excellent shape. The region has a generous amount of open space for both passive and active recreation – passive for quiet enjoyment of nature (with trail

⁷ Ordinance No. 675, Stormwater Management, enacted 6/4/84 and effective 7/1/84.

systems included) and active recreation such as playing fields and recreation complexes. Havre de Grace exceeds acreage requirements with those large public parks adjacent to the City. Multi-use playing fields for active group-sport participation are also adequate however there is always a need for increased acreage in these types of facilities due to high usage. Major complexes include the middle school/high school recreational area with multi-use fields and baseball/softball diamonds and the Chapel Road site where fields are being developed. Meadowvale and Havre de Grace Elementary Schools, as well as nearby Royce-Williams Elementary and Gravel Hill Park, also provide field space for the City's team sport recreational needs. In addition, the Havre de Grace Activity Center – a multi-agency facility which includes Harford County Department of Parks and Recreation, a senior center, and the Havre de Grace Boys & Girls Club – provides indoor recreational space for citizens of all ages.

Playgrounds are interspersed throughout Havre de Grace in both the older and the newer communities. Some small playgrounds are owned and maintained by homeowners associations, others are provided on school property, and several are owned and maintained by the City itself, such as the Tydings Park playground overlooking the Chesapeake Bay. Responsible agencies work hard to maintain the existing facilities and to allocate funds to keep them up-to-date, which is a constant effort. These are important features in the community landscape, providing beneficial activity in an urban setting. As mentioned above, trails feature heavily in Havre de Grace and are part of a long-term effort to incorporate hiking and biking options in this beautiful region. Pedestrian accessibility and recreational opportunities lend to healthy, sustainable communities and add tremendously to the region's quality of life. For an in-depth discussion of trail systems and recreational facilities, please refer to the *Community Facilities* chapter.

Funding of public recreational facilities comes from a number of different sources, to include the State of Maryland, Harford County Government, and the City of Havre de Grace. Providing recreational facilities and open space is a multi-tiered cooperative effort that benefits local citizens and the broader region. Harford County Department of Parks and Recreation continues to be very supportive of this region by acquiring large properties for active and passive open space by providing facilities and partnering in the development of facilities. The City has had the support of both the County and the State in leveraging grant funds for major land purchases through the decades. Havre de Grace is extremely fortunate to have the wealth of facilities that it enjoys.

Financing Mechanisms

Havre de Grace as a City is growing. Over the past 25 years, it has annexed major land areas and now it is steadily filling those areas with planned residential development as market demand requires. As noted earlier, as of January 1, 2023 there is an estimated capacity for 1,741 new residential units within the City. The City has improved facilities – both water and sewer as well as building facilities – to meet that growth demand, but the City also has acquired substantial debt to pay for them. The City must also maintain adequate staffing to operate all necessary facilities and to serve the growing population (i.e. police, public works). This section explores how the City pays for what it already has as a municipal corporation as well as how it continues to finance its growth as new developments get completed over time.

Taxes

A primary source of funding for government operations is real property taxes that are collected by both Harford County and the City of Havre de Grace. This source grows as the City expands through new subdivision and property improvements. When determining the amount of taxes owed on an individual

property, two distinct variables come into play: the property's assessed value (determined every 3 years by the State Department of Assessments and Taxation) and the tax rate established by local jurisdictions. In the case of the municipalities within Harford County, they pay a prorated portion of the County's real property tax combined with a separate local real property tax. As of July 1, 2023, the real property tax rate for property within the City includes the following rates per \$100.00 of assessed value: Harford County within the City of Havre de Grace as \$0.8413; City's tax rate as \$0.565; State of Maryland as \$0.112. As new development occurs – both residential and commercial – the real property tax base increases thereby helping to pay the cost for new required services. Businesses also pay personal property taxes, with a rate of \$2.1033 assessed by Harford County and \$1.705 for the City of Havre de Grace per \$100 of assessed value. The City also receives a portion of State income tax proceeds on a yearly basis.

Fees

In addition to adding to the tax base, new development also contributes directly to pay for system upgrades within the City by paying substantial water and sewer capital cost recovery fees. As of July 1, 2023, these fees (referred to simply as hook-up fees) for a residence in Havre de Grace were \$5,300 for water and \$13,200 for sewer. The City also collects fees for various required permits to cover the cost of personnel and professional services. These include permit fees for all development plans, such as site plans and subdivision plans, stormwater management plans and outsourced engineering review, legal fees, and others. These fees are subject to legislative review to ensure that they remain current to adequately adjust for costs incurred.

All new residential construction is subject to Harford County impact fees which are designated as supplemental funding for school construction. These fees range from \$6,000 for a single-family detached dwelling, \$4,200 for a townhouse, villa or single-family attached dwelling, and \$1,200 for all other residential units such as apartments or condominiums. The impact fees noted were established in 2009 and have not changed since they were first created. These fees are collected at the time of new building permit application. Other funding mechanisms are built into government financing at the County and State level, such as the transfer tax for recreational open space and agricultural preservation, which benefit the public at a broad level. City taxpayers, through the collection of Harford County real property tax, pay for County services such as the public school and the library systems. Residents and businesses are citizens of both jurisdictions and contribute directly to both local government operations.

Incentives

The cost of permits, development, and construction is borne by the developers of a building project, whether it's residential or commercial in nature. As a subdivision is built, a developer must construct all necessary infrastructure at their expense – such as its water lines, sewer lines, roadways, sidewalks, public lighting, electric lines, etc. – to serve the community. Only in the case of commercial and industrial reinvestment are there financial incentives for new development and redevelopment. These incentives come in the form of an Enterprise Zone Tax Credit Program which was first awarded to this region in 1996 and has been renewed twice to provide real property tax credits based on new employment and the cost of property improvements. The Enterprise Zone program was most recently amended in November 2017 and expires in June 2026. Other incentives within Havre de Grace include designated HUBZones through the Small Business Administration, identified Opportunity Zones, and an Arts & Entertainment District.

Budget Process

The most significant costs for running the City come from public safety and operations of public works for providing roadway maintenance and water and sewer service – all necessary aspects of life in a small city. The budgets for all administrative functions, finance, public safety, public works, planning, and the Mayor and City Council are all part of Fund 1, the General Fund. Within its budget, Havre de Grace has a separate enterprise fund for directing the capital and operating costs of water and sewer. A self-sustaining operation, the Water and Sewer Fund (Fund 9) requires a substantial budget for necessary capital plant and infrastructure improvements, operations, and maintenance. The City also has a small enterprise fund for marina operations at the municipal yacht basin (Fund 8). Each year, as required by charter, the City develops its budgets through a public notification and hearing process. The budgets must be adopted by the second meeting in June and include real and personal property tax rates, the continuation of the Critical Area Tax for waterfront property, marina slip fees, and water and sewer rates. (Please see the current City of Havre de Grace Annual Budget for specifics on sources of revenue and expenses.)

The Department of Finance and its Director operate under the authority of the Annotated Code of Maryland Article 23A, which governs activity of municipal corporations in the State, and the City of Havre de Grace Charter, Section 82, which determines the role and responsibilities of the Director of Finance. In addition, Charter Section 37 governs the development of the City's budget process. Operating under generally accepted accounting practices, the Department is governed by guidelines determined by the Financial Accounting Standards Board (FASB) and the Government Accounting Standards Board (GASB). These Boards set the rules under which the City's books must be kept. Other Federal and State mandated oversight also applies to the operation of the City's fiscal management.

Borrowing, Grants, and ARPA Funding

The City has the opportunity to borrow funds through the sale of bonds and become indebted for certain necessary projects requiring approval from voters through referendum. The City most recently borrowed \$15M for infrastructure funding through public referendum in 2019. Borrowing commenced in 2020 with \$9.7M of that drawn and was finished in April 2023 with the remaining \$5.3M and is being used for repair and replacement of water distribution and wastewater collection systems. Federal American Rescue Plan Act of 2021 (ARPA) funding provided direct relief to cities and towns due to the COVID-19 crisis. Signed into law in 2021, it made funding available to local governments to be spent within very specific criteria. The City will be apportioning this \$13.8M for downtown infrastructure reconstruction, general water and sewer infrastructure, and water treatment plant improvements. The City is expecting to be able to keep water and sewer rates down as a result of this unexpected infusion of federal funding.

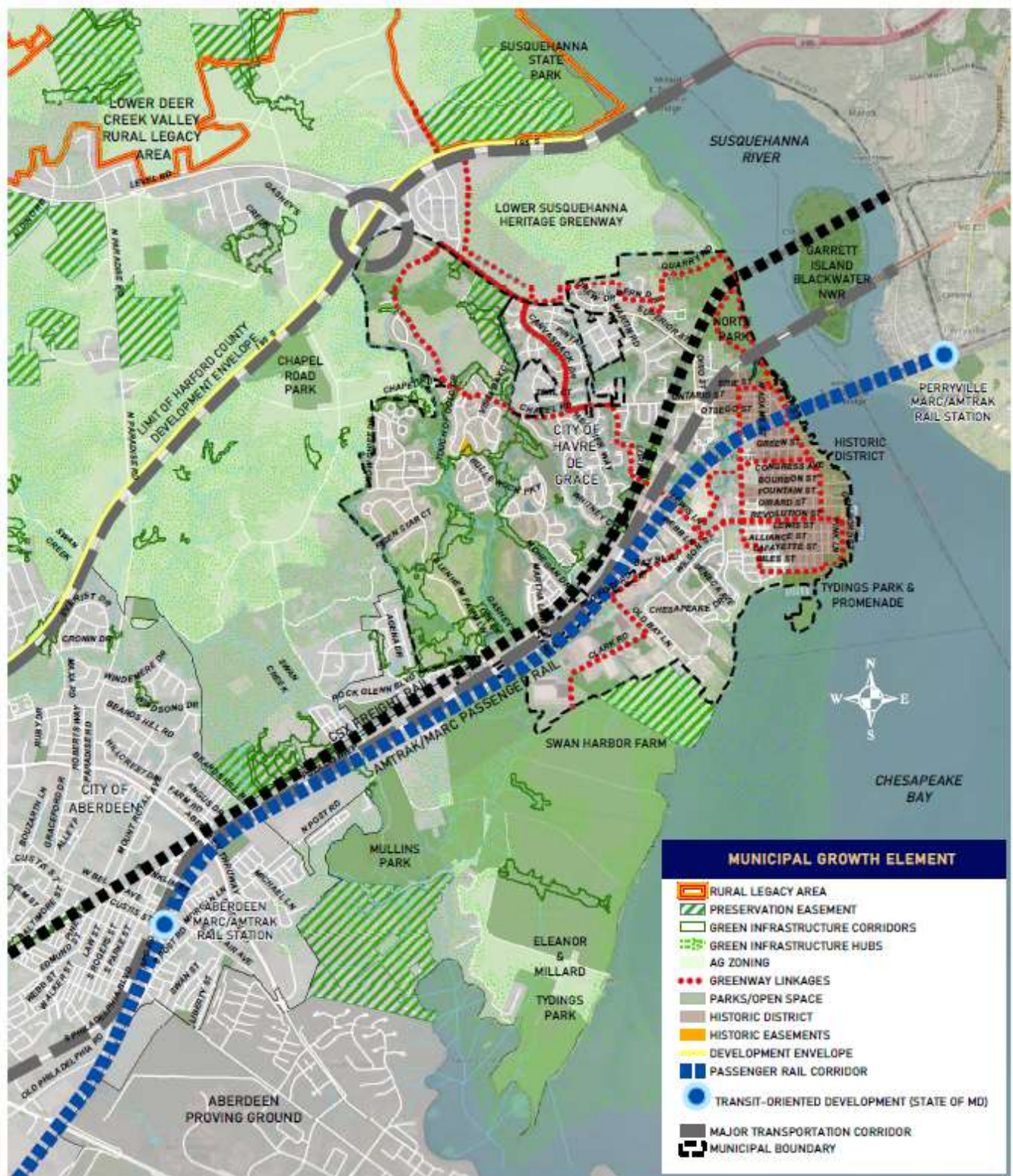
Several sources of funding through the Federal, State, and County provide revenue for operations. For police support, the City receives State and County Police Aid as a reimbursement for general operating costs – \$1.2M from Harford County and \$253K from the State – which provides substantial revenue support for public safety. Community Development Block Grant (CDBG) funds are provided by the Maryland Department of Housing and Community Development on an annual basis and are often used for facility, infrastructure, and road repair. In addition, the City is consistently pursuing grants to augment its financing stream. In most recent years, aggressive grant seeking has assisted the City in the construction of major shoreline restoration and stormwater outfall projects to meet Chesapeake Bay restoration goals. The City will continue to judiciously manage taxpayer investment through pursuit of external revenue sources while focusing on cost control in the operation of this municipal corporation.

Rural Buffers and Transition Areas

In addition to concentrated development within the City of Havre de Grace, Harford County land use policy supports agricultural land uses north of I-95. This interstate thoroughfare provides a physical demarcation of the County's development envelope, providing a transition from the rural portions of the County to the more dense municipalities. In the case of Havre de Grace, this transition is a soft, but distinct edge to land use intensities as one travels east on MD 155 towards the City. Maintaining the agricultural designation in the Harford County Land Use Plan north of I-95 is desired to retain that rural buffer.

Maintaining a visual sense of separation between Havre de Grace and Aberdeen is also desired by way of an established buffer along the Robinhood Road and Oakington corridor. The forested spans and vegetated medians along US 40 between Havre de Grace and Aberdeen give a visual sense of transition between the two cities, and retaining that sense of transition in land use practices, zoning, and subsequent development is necessary. The jurisdictions of Aberdeen, Havre de Grace, and Harford County must coordinate efforts in land use planning for this region so that the beauty of the natural areas and stream corridors are preserved. Much like the Oakington Peninsula which was purchased by Harford County for permanent open space securing Chesapeake Bay access, land preservation should be a priority for the vast tracts along Robin Hood Road to retain the forested stream valley corridors of Swan Creek along this still-rural road.

The Municipal Growth Element map depicts the City's relationship to the broader region, showing the County's Development Envelope line of demarcation between rural and more urban areas. Of note is the fact that the Lower Deer Creek Valley Rural Legacy Area is immediately located north of the City along I-95. Havre de Grace is in a special place in that it is surrounded by natural assets like the Susquehanna River and Chesapeake Bay, Oakington now preserved largely in open space, Swan Creek, and protected agricultural areas. At the same time, it sits directly on significant national transportation networks such as the Northeast Corridor and CSX rail networks and I-95 and US 40 highway corridors. Continuing to improve the quality of life for residents, new and old, hinges on both its multimodal transportation access as well as its location in the midst of natural features. There's a great deal to build on and to reinvest in.



Burden on Services and Infrastructure

The City of Havre de Grace is a mixed bag of development time periods, where there is aging infrastructure in need of improvement and/or replacement, such as in the older historic areas, and new extension of infrastructure in developing areas. Both the water treatment plant and wastewater treatment plants have been updated to accommodate new growth and development. However, the burden is largely on aging water lines and sewage collection systems which are subject to water main breaks and inflow and infiltration in the case of sewer lines. These are managed as they occur and active studies to reduce and ideally eliminate many of these breaks are ongoing.

The City is utilizing the expertise of GHD Engineering for continuing study of the water systems for recommended projects to support existing services, new growth areas, and commitment of sale and distribution of finished water to the City of Aberdeen. The City's Department of Public Works as well as the Administration are responsible for overseeing the management of these major capital projects to ensure that the City is able to accommodate development growth at the plant and systems levels.

Extension of streets, sidewalks, and trail systems -- i.e. other infrastructure -- are performed during the development process and are the obligation of the developers at the time of construction. Ideally, these systems are interconnected in a way that serves the entire Havre de Grace community to engage in walking, hiking, and biking for transportation, recreation, and health. In many cases, the City is actively trying to retrofit bikeways and pedestrian connections between existing neighborhoods in an effort to be fully walkable within the City and within the region.

Protection of Sensitive Areas

The protection of sensitive areas is addressed at the site plan and subdivision level with the application of state and federal law as related to land disturbance and land development. Although Planning staff is looking ahead at the bigger picture for the City in anticipation of future development, the application of regulations for protection of sensitive areas comes at the time of development review. The *Sensitive Areas: Environmental Resources Protection* chapter goes into detail about the sensitive areas that must be considered during the development process, such as streams and their buffers, wetlands, habitats, steep slopes, floodplain, forest conservation, and Chesapeake Bay Critical Area.

One exception to this is the City's proactive response to requirements for Chesapeake Bay restoration at the federal level. This is part of the Chesapeake Bay TMDL, or Total Maximum Daily Load, and its related watershed implementation plans for improving stormwater runoff in older urban core areas where historic development predated stormwater management law. More information on this is included in the *Water Resources Element* chapter of this plan.

Relationship of Long-term Development Policy and City's Future Character

Havre de Grace is a model for livable communities and the City's waterfront history, relationship to the mid-Atlantic transportation corridor, its growth and housing options place it in a unique position for exemplifying the State's Smart Growth policies. These policies focus on community revitalization in existing population centers, creating pedestrian-friendly communities for less reliance on automobiles, compact development, and a traditional mix of uses. The City has many assets that make it an example

of these urban planning principles. It is paramount that Havre de Grace stays strong and financially viable with vision to drive its growth and reinvestment as well as retain its unique character and historic identity.

The relationship of the City's long-term development policy and its future character ideally will be grounded in the visions established in the first chapter of this plan, which are:

- a healthy community
- an inclusive community
- a vibrant, connected community
- an essential cultural and historic hub
- a cohesive, human-scaled, people-centered built environment
- a green, more sustainable community, and
- a fiscally-sound government

These visions all denote ideals that the City is trying to achieve in its reinvestment and development policies, connecting the historic character of traditional neighborhoods with viable commercial areas, industry, newer suburban communities, and neighboring Aberdeen. Ideally, it is a community that is orienting itself around the concept of health, whether by focusing on the development of bikeways and trails, connecting to vast, beautiful open spaces surrounding the City, or supporting access to mental and physical health care in proximity to UM Upper Chesapeake - Aberdeen. Social, physical, and mental well-being of its residents is forefront.

Creativity and the arts are part of this picture and the City is focusing on its arts resources, whether public or private. Major advances have taken place to include the rehabilitation of the Cultural Center at the Opera House in 2017 and the opening of the STAR Centre in 2022 as well as private arts venues that are developing, such as Harmer's Town Art Center, The State Theater, and the Arts Collective with its mission and gallery spaces. The development of the City as an arts and cultural hub lends depth to the experience as a historic town center.

Residential growth over the past 25 years has changed Havre de Grace considerably and the City continues to develop with additional new housing projects reaching towards the I-95 interchange. With the major employment center of Aberdeen Proving Ground only 5 miles away, Havre de Grace is positioned to provide additional housing in close proximity to APG, considered to be a megabase that serves as a primary center for science and technology for the Department of Defense. Furthering physical connections to Aberdeen, such as the Baltimore Metropolitan Council's US 40 Concept for Bike and Pedestrian Improvements will only enhance connections between the cities, creating options for biking and walking as transportation. Multimodal transportation networks are forefront in this region, specifically with regard to the Northeast Corridor for Amtrak (eastern seaboard) and MARC (regional commuter) rail service but also local and regional bus transit. By having transportation choices other than automobiles, options for increased sustainability are available that can change the paradigm of household car dependency.

The long-term development policy of Havre de Grace must support its collective vision of the City's future character, where its vision is to support its historic, small-town feel. As the City continues to build out its new neighborhoods, the City's character is dependent on interconnections between the older and newer areas, its trail systems and pedestrian connections within the City, and its retention of its historic context and scale. Havre de Grace has a great advantage over larger jurisdictions like Harford County to be able to plan at a community level where smaller-scale planning equals human-scale planning. Planning at any scale always affects people who are all ultimately subject to the policies that determine the built

environment. However, here decisions can be made to benefit the citizens in a very direct and personal way to make this City a vibrant, desirable, and successful place to be.

GOAL: The goal for Havre de Grace within the framework of this Municipal Growth Element is to successfully build out areas that have been annexed over the past 25 years and to be sure that City infrastructure is planned and financed to meet projected need.

ACTIONS:

- Continue to closely monitor the pace and timing of residential development, specifically with large tracts of lands that were annexed, such as the Bulle Rock Planned Adult Community, Greenway Farm, and Green/Ianniello/Patrone annexed property, for the ability to adequately serve all planned growth within the City's water distribution system. The anticipated horizon for residential buildout is 20 – 23 years.
- Carefully plan any additional annexations along the US 40 Commercial Corridor with recognition of needed water distribution system improvements to serve those area due to water storage limitations. These limitations are identified in ongoing studies by GHD Engineering and are referenced in the *Water Resources: Supply and Protection* chapter and technical study in Supporting Resources at the end of this planning document.
- Provide a clear pro-forma of water and sewer existing capacity including operating and debt service vs. revenue sources.
- Provide a clear projection of water and sewer needs and costs to serve existing proposed development and possible redevelopment and/or infill sites within the older portions of the City.
- Work with all Harford County agencies for facilities planning related to residential growth, specifically Harford County Public Schools, Department of Parks and Recreation, Planning and Zoning, Emergency Services, Public Library, and Public Works. More targeted information regarding public facilities is located in the *Community Facilities* chapter of this document.
- Continue the City's framework for fiscal soundness as provided by the Departments of Finance and Administration, understanding that incremental facility improvements are provided through a measured 5 to 10 year Capital Improvements Program and annual budgeting.
- Continue to strengthen the City's position for achieving and administering grant funding through all departments within City government.

5. RELATIONSHIP TO THE LOWER SUSQUEHANNA HERITAGE GREENWAY

Thirty years ago, a vision was created for a connected trail system around the three historic communities located along the Lower Susquehanna River where it flattens out to become the Chesapeake Bay. The creation of the Lower Susquehanna Heritage Greenway (LSHG) began in 1992 by a group of local, state, and business partners with a goal of expanding heritage tourism and recreation within the Upper Bay region. The trail system would link the City of Havre de Grace and the Towns of Perryville and Port Deposit with the vast Susquehanna State Park on the west side of the river and Bainbridge bluffs and natural areas along the east side. The beauty of the trail concept was that it would connect across the river that divided them, ideally in two locations – at the upper portion near the Conowingo Dam and at the southern, more populated area at the mouth of the Susquehanna where four bridges and traffic – both rail and automotive – traverse the Atlantic Coastal Plain.

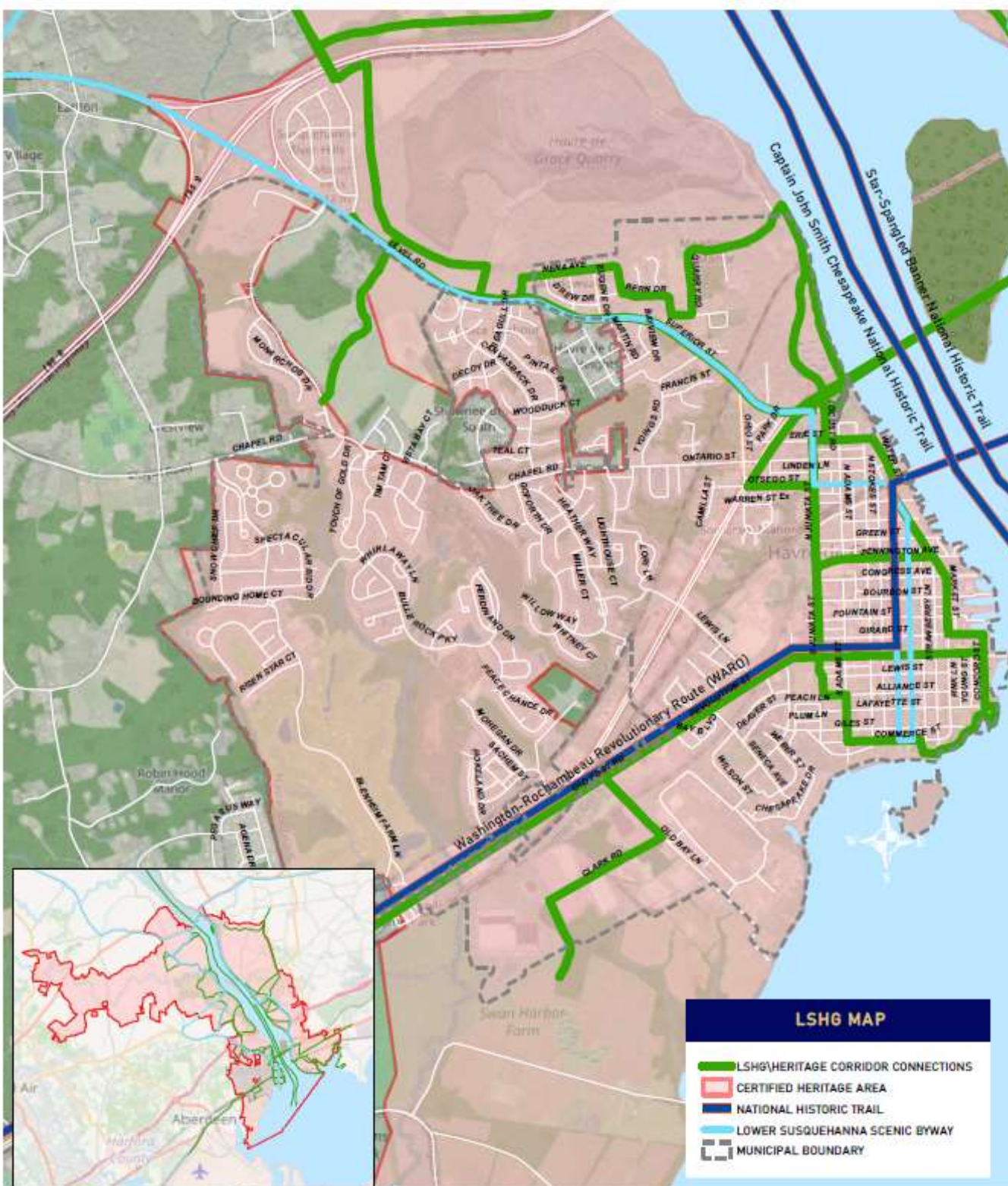
Certified as a Maryland heritage area in 2000, the LSHG is a non-profit 501c-3 organization and operates with the support of the Maryland Heritage Areas Authority (MHAA), local municipal support, and other public and private donors. This Certified Heritage Area (CHA) encompasses the villages of Darlington and Berkley, Susquehanna State Park, Vulcan Materials Company quarry operation, the City of Havre de Grace, and rural areas within Harford County on the west side of the Susquehanna River and the Towns of Port Deposit and Perryville and rural areas in Cecil County on the east side of the river. Constellation Energy Corporation (formerly Exelon) is a large land owner, providing public access to natural areas along both sides of the Susquehanna.

The area encompasses nearly 45,000 acres in Cecil and Harford Counties, extending approximately 12 miles from just north of the Conowingo Dam to the head of the Chesapeake Bay along both sides of the Susquehanna River. The Heritage Area includes over 8,400 acres of water surface on the Susquehanna River and Chesapeake Bay, and nearly 58 miles of mostly undeveloped shoreline (much of which is in state or Exelon ownership). It also includes several major stream corridors (e.g., Octoraro Creek, Conowingo Creek, and Deer Creek).

From the Lower Susquehanna Heritage Greenway website



Since its inception, the LSHG has been a staple in the region, spurring public and private investment and reinvestment in the communities it incorporates, preserving resources, implementing trails, funding events, and promoting heritage tourism. Its designation as a CHA allows for competitive grant funding for capital and non-capital projects for museums, the municipalities themselves, and other



non-profits with a yearly grant cycle for capital and non-capital heritage tourism projects (up to \$50K for non-capital grants and up to \$100K for capital grants). In addition, the designations offers a heightened level of importance for Maryland Historic Revitalization Tax Credits for private property owners within its boundaries. Adopted in 2000, a twenty-five year management plan governs the development of the LSHG with implementation updates every five years.

In 1997 in answer to the concept development of the LSHG, the City of Havre de Grace adopted its own Heritage Corridor Management Plan that governed its local relationship to the broader LSHG vision. This chapter is intended to replace that standalone heritage corridor plan by adopting the ideals of the greenway effort within the City's Comprehensive Plan and carrying them forward. The City has benefitted greatly from the creation of the LSHG and, as a small-sized city, is a significant partner within the bigger framework. The City will continue to build on the success of the past thirty years and ideally lay the groundwork for the next decades here in this chapter.

Vision: To develop the City as the tourism hub on west side of Susquehanna River with connections to Susquehanna State Park and the vast natural areas along the river, to Oakington Peninsula with protected colonial-era farmland and premier Chesapeake Bay frontage, and to Perryville with a safe river crossing to connect population centers at the top of the Chesapeake Bay.

HAVRE DE GRACE WITHIN THE LSHG

As a historically important community and population center, Havre de Grace is a key feature within the LSHG. The converse is also true – the LSHG is a key feature within Havre de Grace, and the City has been building physical improvements around the LSHG for decades. The greenway within the City is a system of pedestrian linkages – sometimes natural paths, sometimes brick-edged sidewalks – that are being constructed to connect museum and cultural resources and public lands along the waterfront and within our historic district and extending to the newer, developing areas located to the west of the historic downtown.

Within Havre de Grace to the north is a large natural area along the Susquehanna with a riverfront trail that is rimmed with steep

grades, making for a challenging climb in order to proceed along the new trail around Vulcan Materials Company quarry operation and on to Susquehanna State Park. A generous land donation of three hundred acres from Constellation Energy Corporation to local jurisdictions was publicly announced in the summer of 2022. It is anticipated that Havre de Grace will be a recipient of approximately fifteen acres in the northern portion of the City. To the south are connections to large colonial-era landholdings on the Oakington Peninsula, now owned by Harford County Parks and Recreation and will be designed with passive recreation and trails. Within the City, the signature brick-ribbon sidewalk connects major portions of the waterfront, however gaps exist making this incomplete at this time. The goal is to connect the Lock House Museum at the north end of the City's waterfront to the Concord Point Lighthouse and Promenade to the south.

ECONOMIC IMPACT STUDY

Lower Susquehanna Heritage Greenway Makes an Impact
December 2020 by Parker Philips, Consultant

The **Heritage Corridor Plan Map** illustrates the desired physical connections from the waterfront westward through the historic areas to connect with more distant parts of the City. Adopted in the City's last comprehensive plan, this map is a good illustration of the overarching approach to making connections along the waterfront with main streets, like Pennington Avenue and Revolution Street.

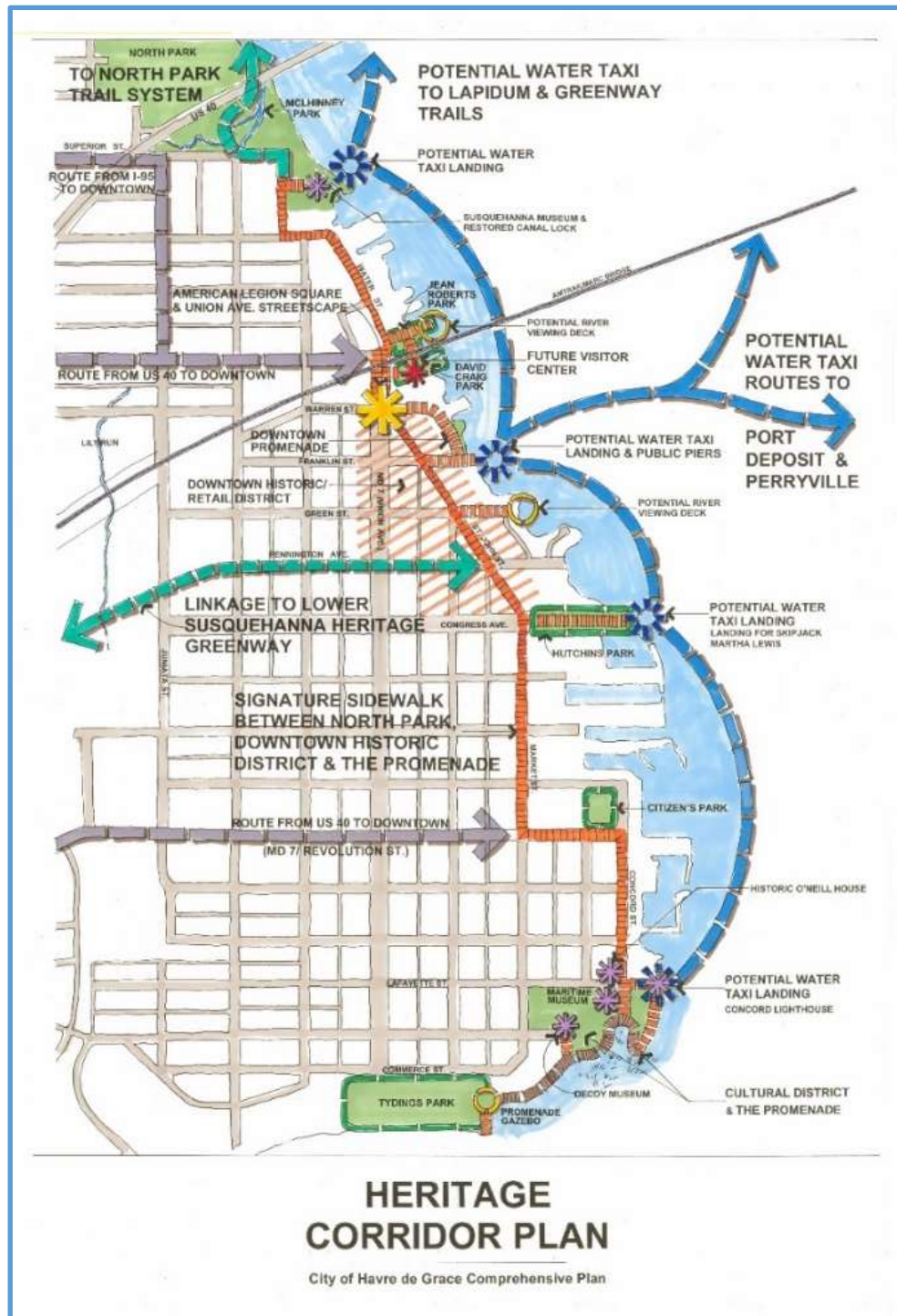


Figure 1, Heritage Corridor Plan map showing the City's signature brick sidewalk connections along the City's waterfront and main corridors radiating westward from it. This map is incorporated in the City's 2004 Comprehensive Plan and it is still relevant today. Artwork courtesy of Garden Architecture, LLC.

ACCOMPLISHMENTS WITHIN HAVRE DE GRACE

Major strides of reinvestment have been made within Havre de Grace in relation to the LSHG. MHAA grant funding has supported innumerable museum and cultural projects since 2000 and was a major funding source for the Havre de Grace Colored School Foundation's acquisition of their property as well as gap funding for the renovation of the Cultural Center at the Opera House, a city-owned building to name just a few of the projects receiving funding. Yearly grant making through the LSHG has spurred restoration activities at all museums and non-profit cultural resources within the City.

Significant property acquisitions have occurred within the past ten years to extend the public access and enjoyment of the City's extensive waterfront. This includes the property shown on Concord Street immediately adjacent to the Lighthouse as well as a collection of four properties on Water Street where a recreational boat-ramp and living shoreline project are being completed. These are significant construction projects with environmental restoration and habitat improvements built into them. Continued pedestrian improvements, specifically the waterfront signature sidewalks have been incorporated in land acquisitions, such as the Heritage Park/Promenade extension shown here.

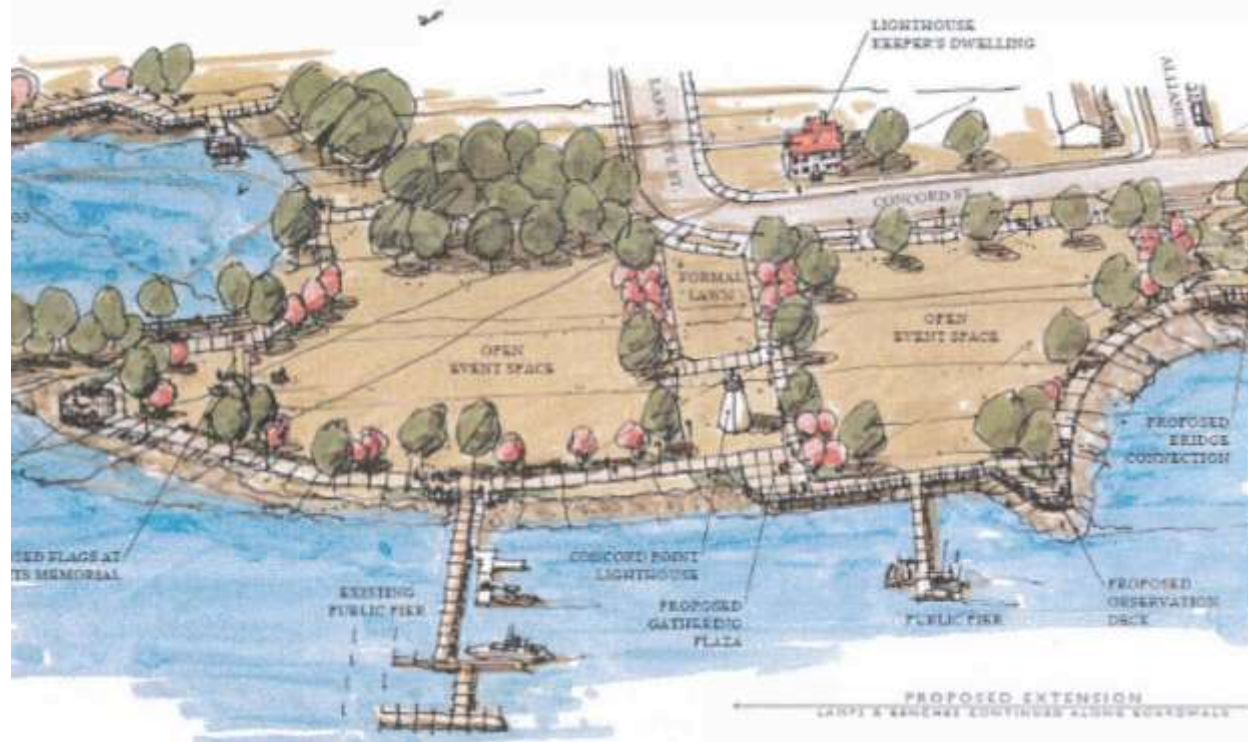


Figure 2, Concept provided by Site Resources, Inc. for the extension of the Promenade along Concord Street. The improvements were completed in 2016.

Trail connections have made great progress, most recently with the successful establishment of the trail from the North Park Loop Trail traversing the steep to Lagaret Drive through the Meadowvale neighborhood to Havre de Grace Ambulance Corps with the assistance of the Mason-Dixon Trail volunteers. This connects the north end of Havre de Grace to the Vulcan Quarry Trail adjacent to the City-limits – which opened in spring 2022 – and ultimately to Susquehanna State Park. To the south, there is another major initiative to connect the City through an easement to Swan Harbor Farm, much

of which has been cleared with the help of volunteers through Boy Scouts and Harford Running Club. Substantial wetland areas need to be forded with constructed boardwalks before they will be truly open for public access and the City is working with Harford County Parks and Recreation for how control of this access will function.

MORE WORK TO BE DONE TO CREATE CONNECTIONS

Much work is remains to be done, especially the need for continued promotion of how important heritage tourism is to the regional economy. In addition, the steady, continued development of the trail system linking the important cultural assets of the Lower Susquehanna/Upper Bay region is critical in seeing the vision become reality. The LSHG was a contributing partner in the National Park Service Lower Susquehanna River Segment Implementation Plan. This is a very detailed plan of the Lower Susquehanna River from Harrisburg, PA to the mouth of the Susquehanna River here in Havre de Grace includes three National Historic Trails that intersect in the Upper Bay:

- Captain John Smith Chesapeake National Historic Trail
- Star-Spangled Banner National Historic Trail
- Washington-Rochambeau National Historic Trail

The celebration of historic and cultural resources and the interpretation of the City's historic context is imperative for economic development that lends itself to revitalization.

Grant cycles for all museums and cultural resources continue to be paramount for the continued improvement of these important historical structures and attractions. Assists with strengthening heritage tourism, interpretation, and understanding of the history of an area. Continued development of public parkland with sidewalks and trail connections between these museums round out the opportunity for making the City a great place.

Continued regional collaboration through quarterly meetings of regional partners is greatly desired. The sharing of information and mutual support of the museums within the LSHG region creates a critical mass to get much accomplished over time. Whether its trail clearing, interpretation, and the visitor experience, much of which comes through from the effort of generous volunteers. The importance of volunteer contribution cannot be overstated and has kept the mission of the LSHG alive.

One of the most ambitious efforts of the LSHG is the continued focus on the development of a Susquehanna River crossing, ideally from Havre de Grace to the Town of Perryville. This idea was incorporated in the *Lower Susquehanna Heritage Greenway Management Plan* in 2000 and there was an initial feasibility study for a crossing in 2002. Now that the Amtrak Susquehanna River Rail Bridge will be replaced with two new

bridges within the next decade, it has taken on a heightened focus. The rail bridge project presents the greatest opportunity to see the vision become a

*NATIONAL PARK SERVICE LOWER SUSQUEHANNA RIVER
Lower Susquehanna River Segment Implementation Plan (2018) for enhancing
National Trails through the Chesapeake Bay Office, now Chesapeake Gateways*

reality, and it is critical that the LSHG and its partners utilize this opportunity for a grade-separated

bridge pathway – a third span – that would mirror the two new bridge profiles. This connection would not just be for the LSHG but for the 3,000 mile East Coast Greenway (ECG) from Maine to Florida and the recent Congressionally-approved September 11th National Memorial Trail, which is a 1,300 mile trail that links the World Trade Center, the Pentagon, and the Flight 93 Memorial here in this region.

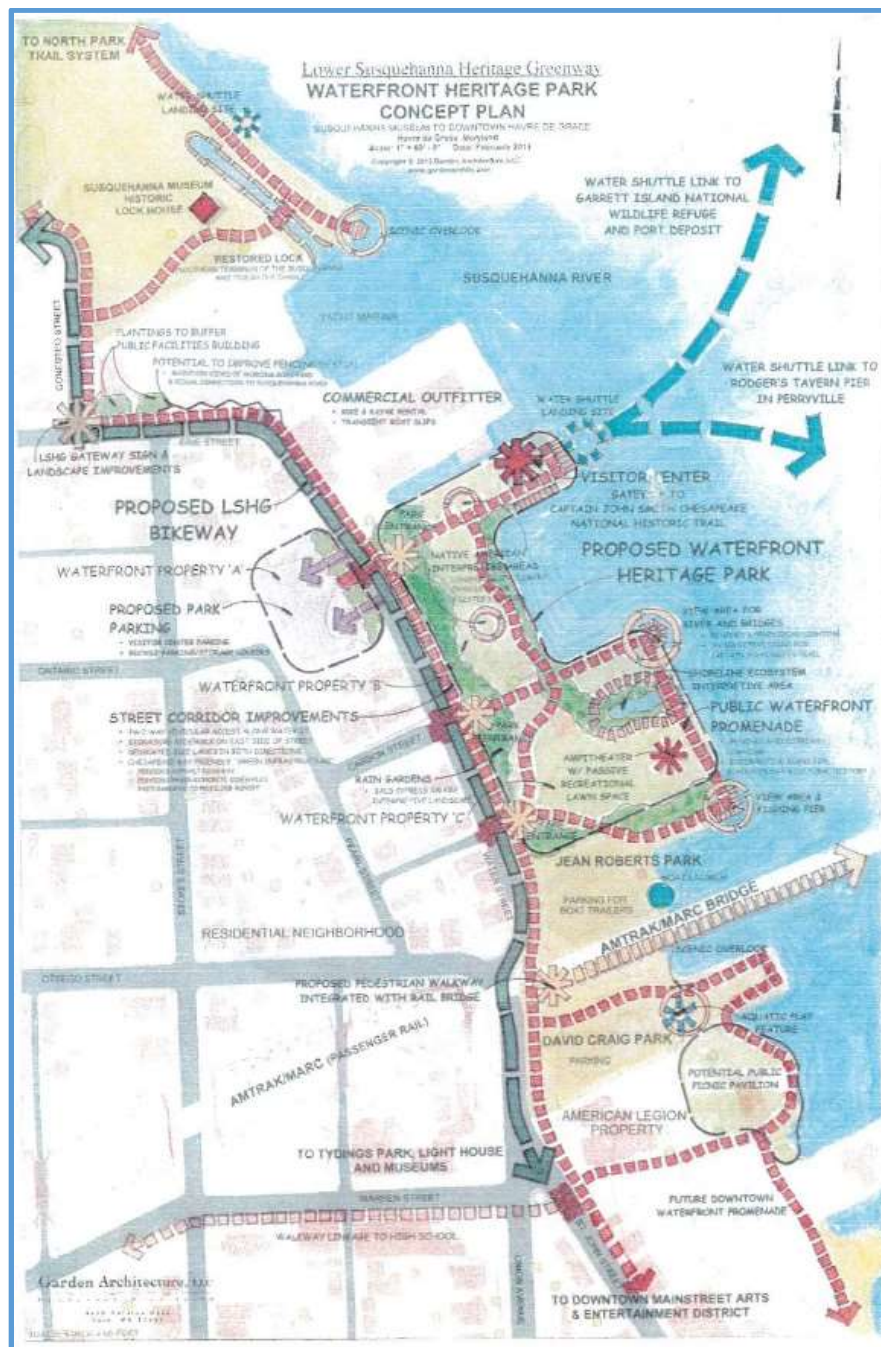


Figure 3, Concept Plan for the Water Street Heritage Park showing connecting signature sidewalks from the downtown to the Lock House Museum and grounds, water taxi options, and pedestrian link to Perryville along the Amtrak corridor.



LSHG MANAGEMENT PLAN

Adopted in 2000, Lower Susquehanna Heritage Greenway Management Plan was prepared by Redman/Johnston Associates, Ltd., ICON Architecture, Inc., and Garden Architecture Landscape Architects

The Lower Susquehanna Heritage Greenway

As part of its mission the LSHG aims to:

- Create a premier, world class land and water-based trail system to explore the natural and cultural history of the Lower Susquehanna River and Chesapeake Bay.
- Create greater public access to the Lower Susquehanna River and the Susquehanna Flats portion of the Chesapeake Bay for recreational and economic opportunity by acquiring land, assisting in the construction of trails, and advocating for sustainable development.
- Encourage a greater understanding of the significant role that the Lower Susquehanna and Chesapeake Bay and its people have played in U.S. history, awakening a local sense of pride in place.
- Foster linkages among and between the heritage attractions of the Lower Susquehanna and Chesapeake Bay's waterfront communities by providing unique visitor experiences that encourage the public to explore, learn, and enjoy the diverse offerings.
- To provide leadership, technical assistance, and advocacy to guide land use decisions that enhance our quality of life by supporting expanded recreation and economic opportunities, and to promote a sustainable healthy lifestyle.

Key partners of the LSHG include small and large businesses and landowners, Harford and Cecil Counties, the Towns of Port Deposit and Perryville, the City of Havre de Grace, and Susquehanna State Park. Other important partners include the village of Darlington, local museums, and civic and business organizations.

Program goals of the LSHG are:

- To enhance the visitor appeal and enjoyment of the state's history, culture, natural environment, and scenic beauty by enhancing the overall 'product' – the visitor experience.
- To increase the economic activity associated with tourism, creating opportunities for small business development, job growth, and a stronger tax base.
- To encourage preservation and adaptive re-use of historic buildings, conservation of natural areas important to the state's character and environment, and the continuity and authenticity of cultural arts, heritage attractions and traditions indigenous to the region.
- To enable Marylanders and visitors alike to have greater access to and understanding of the history and traditional cultures of the state and to understand the important events that took place here.
- To foster linkages among and between heritage attractions that encourage visitors to explore, linger, and sample the diverse offerings of the state's distinctive regions.
- To balance the impact of tourism activity with the quality of life enjoyed by residents.
- To accomplish these goals via partnerships among local and regional leaders, non-profit organizations, businesses, and state agencies.

Lastly, but most importantly, we strive to improve the economic condition and quality of life for those who live on the most treasured of our nation's natural resources, the Chesapeake Bay.

From the Lower Susquehanna Heritage Greenway website



“Access to the Bay and river, Susquehanna State Park, and preserved farmland are all vital.”

– Comprehensive Plan 2022 StoryMap Survey Response

GOAL: To build out the LSHG within the City as per the Lower Susquehanna Heritage Area Management Plan through trail and active transportation networks, connecting Havre de Grace to the greater identified LSHG Heritage Area and support the many varied cultural attractions that make Havre de Grace a celebrated destination.

ACTIONS:

- Continue to build on this long-term partnership and planning effort to connect the communities of Havre de Grace, Port Deposit, and Perryville with the surrounding natural areas and cultural features with a greenway trail system.
- Support the State in their Maryland Heritage Areas program and communicate how important the program is to local communities in terms of funding support and preservation of the State’s collective cultural heritage as a key to revitalization.
- Work with the Maryland Department of Transportation in partnership with the LSHG and adjoining municipalities for the establishment of a bicycle/pedestrian Susquehanna River crossing that not only benefits the local communities but the broader region and the nation. This was a concept that was identified as early as 2000 in the LSHG Management Plan and would provide the shortest distance and only safe active transportation linkage between the Eastern and Western shores of Maryland.
- Continue to utilize the resources of MHAA to preserve and enhance the City’s heritage resources, such as the various museums, arts, and cultural destinations that have benefited greatly from this program.
- Continue the excellent partnership with LSHG as an advocacy organization for trail development and ecological, cultural, and heritage access and interpretation. This is a regional

collaboration that has been in existence for over 25 years which continues to gain momentum in its service to its municipalities and Harford and Cecil Counties.

- Utilize the LSHG partnership framework for connecting and interpreting the National Historic Trails that traverse the City and the region -- the Captain John Smith Chesapeake NHT, the Star-Spangled Banner NHT, the Washington-Rochambeau NHT – as well as National Park Service Chesapeake Gateways.
- Continue to work with and incorporate the ECG and September 11th National Memorial Trail through the region and specifically with the river crossing where Havre de Grace and Perryville will prove to be the optimal location due to its relationship to other transportation corridors. This is a development area with growing communities along Amtrak's Northeast Corridor and as such, a river crossing would serve as a means of transportation as well as a recreational destination within a smart growth corridor. The recently identified US Bikeway 201 also traverses here.

6. REGULATORY FRAMEWORK

The adoption of this Comprehensive Plan is only one element of a continuous growth management process for the City of Havre de Grace. The Plan itself serves as a guiding document, or a framework, around which relevant future land use decisions are based. In order for the goals, objectives and action items in this document to bear fruit, those items must be implemented. The word *implementation* is an action word, and implementing the Comprehensive Plan is a continuing, active process. It is accomplished through various growth management tools – such as zoning, subdivision, and site plan ordinances – that govern public and private actions at the individually owned property (or site planning) stage and may include incentives as well as regulations. It is further regulated through the local legislative process, which includes interaction between the public, the Planning Commission, the Board of Appeals, and the Mayor and City Council.

The regulatory framework is not only the local-level mechanisms that the City utilizes to implement the Comprehensive Plan, but also the State of Maryland requirements for what needs to be addressed in a Comprehensive Plan. Moreover, the Comprehensive Plan has legal significance, in that the State requires, “zoning, provision of water and sewer, and other local actions must be consistent with its recommendations”. The subject matter of those recommendations and the guiding visions for the document are all prescribed by State laws.

In addition to regulations, there are also incentive policies that influence land use decisions, both public and private. These may include Enterprise or Empowerment Zones for renewed commercial reinvestment, Historic Tax credits for reuse of existing structures, or other incentives that ultimately affect land use. Great strides have been made at the state-level under the nationally recognized Smart Growth initiative to encourage growth to occur in appropriate areas. These State initiatives affect land use policies at the local level. This includes the establishment of Priority Funding Areas and the development of incentives for cleanup of old industrial areas, or Brownfields. These incentives serve to encourage beneficial land uses, whether it is community revitalization, historic preservation, or other desired outcomes.

This chapter lays out existing implementation measures that affect land use in a very broad, generalized way. Further investigation is necessary for more specific information relating to policies, regulations, or available incentives. The following recommendations are considered to be the most important actions that should be pursued within 3 years of adoption of the Comprehensive Plan. Supporting sections within this chapter consist of the following: (1) implementation authority and process of local government to oversee policy, regulation, and enforcement regarding land use control, (2) current zoning designations and development approval process, (3) the capital improvements program, (4) annexation, and (5) other

MARYLAND PLANNING VISION #12: IMPLEMENTATION

The last but not the least important State Planning Vision is #12: *Implementation*.

As the Comprehensive Plan is mostly considered a guiding document with some legal authority, creating policies that conform to the Comprehensive Plan is of the utmost importance.

Specifically, in order to bring the other 11 visions into fruition, Havre de Grace must adopt “strategies, policies, programs and funding for growth and development, resource conservation, infrastructure and transportation are integrated across the local, regional, state and interstate levels to achieve these visions.”

implementation tools. This chapter strives to clarify the relationship of the Comprehensive Plan as a policy document to the real process of implementation that occurs at the individual property level.

Implementation is necessary and allows Havre de Grace to be an autonomous entity. The City is able to sustain financial solvency, grow in a controlled and responsible manner, and enforce regulations at all levels of government. Taking ideas and turning them into policies allows Havre de Grace to be in control of its own destiny.

Vision: To have clear and defined regulations and procedures that govern land use and development to make it as understandable and predictable to the customers that are served.

Planning Authority and Process

The Local Government Article and Land Use Article of the ***Annotated Code of Maryland*** give 3 land use controls to local governments: 1) authority to adopt a comprehensive plan; 2) power to enact a zoning ordinance; and, 3) develop subdivision regulations. Local governments do not have to take advantage of any of these enumerated powers but, if they choose to do so, it must be done according to State law. Below is a discussion of the City's current land use controls and potential ways to make an even stronger and more efficient system of regulation.

Prior to public hearings for development review and formal action by the Planning Commission, City staff members review a project internally to ensure that it conforms to State and local laws and that the project can be served by public utilities and services. As part of the staff review, a Joint Development and Review Committee (JDRC) should be created to address issues related to development projects as part of a new pre-development meeting process. This committee should include staff from the Department of Planning, the Department of Economic Development, the Department of Public Works, local emergency response and other technical staff as required to properly assist in the development of the project. Property owners and/or project developers will need to participate to answer questions relating to their respective project. The Zoning Code states when pre-development meetings should take place. The uses and sizes of development projects requiring pre-development meetings should be more specifically outlined in the City Code.

Consideration for the following items is paramount during these discussions and throughout all development review by City personnel and the Commission to assure the best possible project:

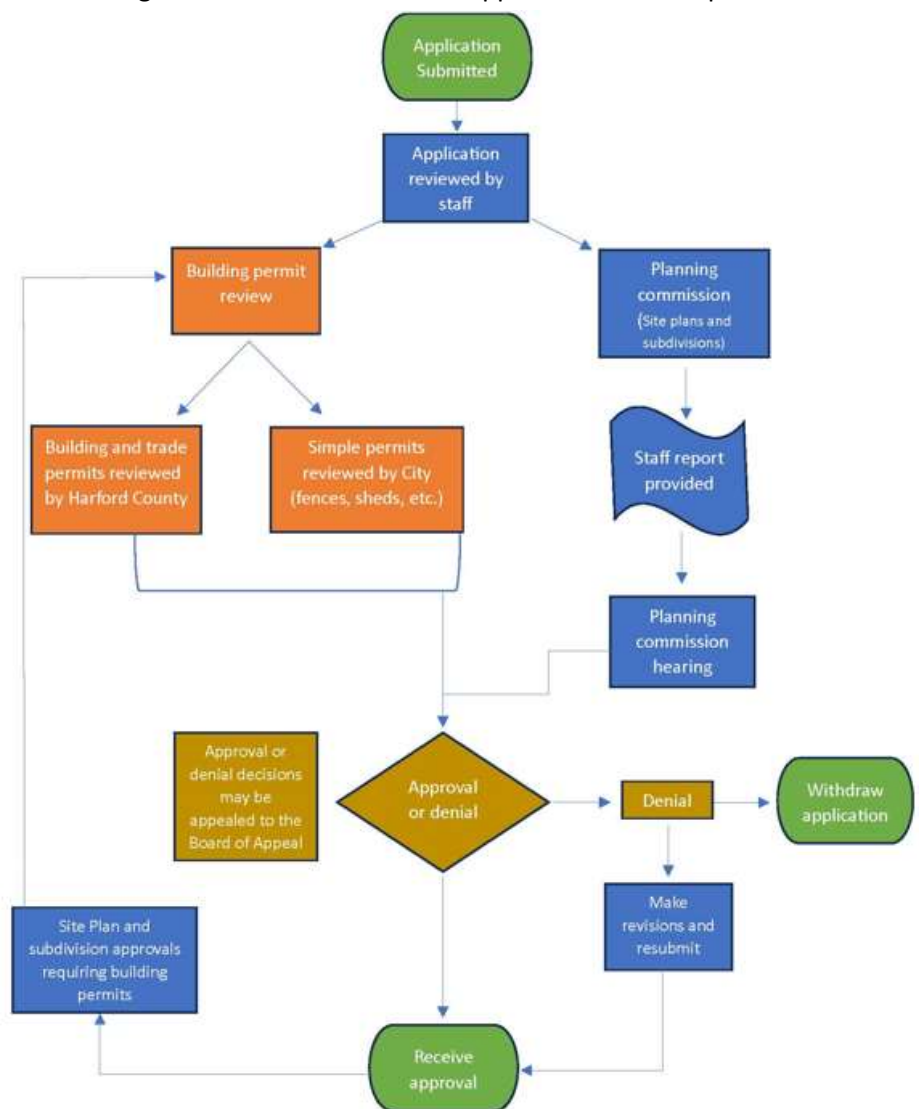
Project Land Use and Density <ul style="list-style-type: none">▪ Functional organization of site▪ Land use relationships▪ Developable area▪ Compatibility with Comprehensive Plan	Transportation and Circulation <ul style="list-style-type: none">▪ Identify transportation hierarchies▪ Vehicular access and circulation▪ Pedestrian access and circulation▪ Traffic impact analysis
Design Considerations <ul style="list-style-type: none">▪ Compatibility of scale▪ Compatibility of design▪ Architectural style▪ Landscaping	Site and Off-Site Features <ul style="list-style-type: none">▪ Size and shape of site▪ Topography▪ Soil and sub-soil conditions▪ Drainage and storm water

	<ul style="list-style-type: none"> Public utilities and infrastructure Existing improvements
Historical and Architectural Considerations <ul style="list-style-type: none"> Significance Location 	Environmental Considerations <ul style="list-style-type: none"> Inventory of assets Quality of ecological setting Preservation of natural systems Quality of environmental design Open space and conservation

Land Use Controls

Havre de Grace utilizes all of its state-provided land use controls. Since 2018, the City has updated its regulations to improve the functions of the Planning Commission and Board of Appeals. The development review process has also improved. In the sections below, this document identifies ways the City can continue to improve on these foundations.

The flowchart illustrates the development review process for the City, albeit oversimplified. Projects of varying sizes must go all through a permit process for staff review, whether it is for a major subdivision or the size of a small shed. All projects must be reviewed with many regulations as a backdrop, so it is not always as straightforward as it seems. For instance, Havre de Grace has the benefit, but also added complication, of an extensive waterfront which adds floodplain and Chesapeake Bay Critical Area requirements in some land areas. Also, the scale of the project may trigger additional regulatory review such as stormwater management requirements for projects over 5,000 square feet or forest conservation for projects over 40,000 square feet. The regulations must all be taken into account in the review process.



Zoning Code

Chapter 205 of the City's Code is the chapter on zoning. The Zoning Code was officially adopted in 1982 and molded to fit the existing fabric of the City. In March 2000, the City added the Mixed-Office Employment district in an attempt to guide development for a large parcel at the I-95/MD 155 interchange. To date, that parcel has not been developed. In 2023, the City added an I-Industrial zoning category for areas that had been zoned C-Commercial to differentiate the uses. All zoning categories are reflected in the Zoning Map within this chapter.

The Zoning Code has been modified over time in a piecemeal approach with the goal of improving the development review process and recognize new uses coming to the area that were not addressed (e.g. "pain management clinics"). However, the Zoning Code is outdated. A comprehensive rezoning is likely needed to modernize the Zoning Code, as well as to bring it into conformance with this adopted Comprehensive Plan. Specific provisions that need to be updated will be discussed in further sections of this plan as they relate to that section.

Modifications to the Zoning Code are initially reviewed by the Planning Commission upon receiving "an application for amendments" per Section 25-25(A) of the Zoning Code. The Planning Commission is then required to send their findings and recommendations to Mayor and Council. However, the method for staff-driven changes to the Zoning Code is unclear in the current text. Article V of Chapter 25, which discusses the Planning Commission's powers have not been updated since 2003. This should be a priority for the City as recent updates to prior sections of the City Code have led to discrepancies in the zoning change process.

Site Plan Approval

The City updated the language of Chapter 155 – Site Plan Approval in December 2020. The Code provides guidance and transparency to developers, staff, and members of the Planning Commission. For developers, the chapter outlines the development review process, site design and architectural requirements, the need for adequate public facilities, and environmental concerns. For staff, Chapter 155 is a guide for the requirements that need to be met and for the various departments and agencies that also need to review site plan applications.

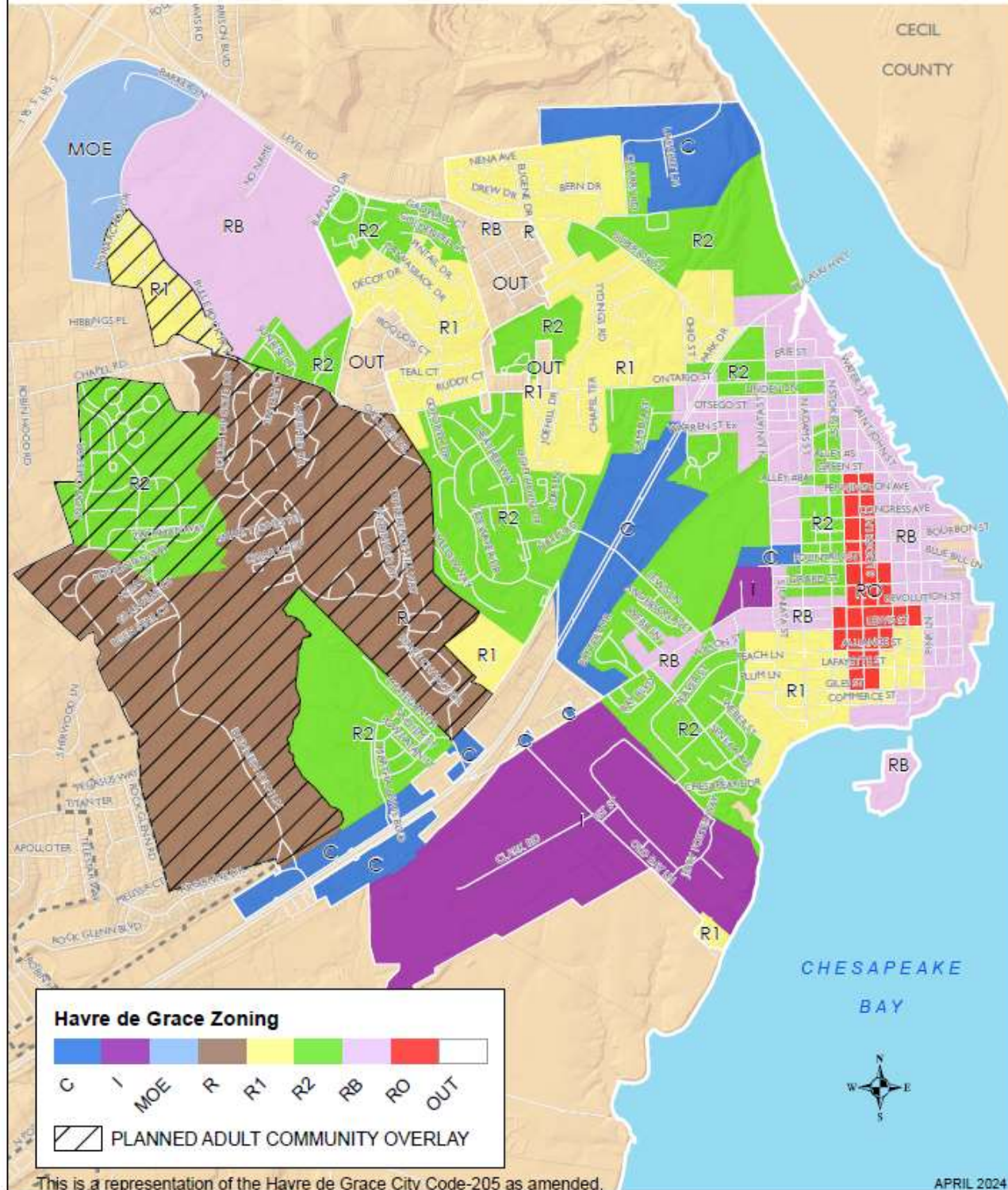
For projects that require site plan review, the Department of Planning should spearhead the creation of a Joint Development Review Committee. It is in the best interest of the City to have all departments and agencies that are reviewing site plans meet together to discuss a project. The current process is disjointed and would benefit from an overhaul on how to make better informed decisions as a group.

Subdivision Regulations

Chapter 173 – Subdivision Regulations is also an updated edition of the City Code, being ratified in March 2020. Similar to the Site Plan Approval chapter, the new subdivision regulations provide a road map for subdivision approval with clarity on the requirements. Currently, the subdivision requirements do not have a minor or major subdivision classification – staff can only approve subdivisions of two lots. All other subdivision applications must be heard by the Planning Commission. It may be in the best interest of the Planning Commission to make a minor and major distinction in order to allow staff review of smaller subdivisions in order to make the development process more efficient.

ZONING MAP

City of Havre de Grace



Capital Improvement Program

The scheduling of public physical improvements, such as streets, sewers, public buildings, and park improvements for a community, is the essential task of capital improvements programming. The scheduling is based on a series of priorities according to need, desire, or importance, and to the community's ability to pay. Capital improvement programming provides the vital link between the Comprehensive Plan and the actual construction of public improvements. Whereas the plan may state what and where improvements should be built, the capital improvement program states when they will be built, how they will be paid for, and what they will cost. Because the provision, nature, and location of public facilities greatly influence the patterns of urban growth, programming is one of the most important implementation tools at the City's disposal.

Many important advantages and benefits are to be gained from the programming of capital improvements. A Capital Improvements Program, or CIP:

- Ensures that the public facilities and traffic circulation portions of the comprehensive plan will be carried out;
- Calls attention to deficiencies in the community and promotes action to correct them;
- Produces cooperation and coordination between various municipal departments as well as different governmental units;
- Ensures that projects are not built before they are needed or so late that costs become prohibitive;
- Ensures that funds can be provided in a logical manner;
- Guarantees review of new facilities to determine whether policy decisions were properly made on how the new project should be financed; and
- Protects the community from pressure groups demanding "pet" projects.

The term "capital improvements" refers to new or expanded physical facilities for the community that are of large size and relatively permanent, such as streets, playgrounds, harbor facilities, police stations, schools, libraries, water distribution, and sewer systems. Large-scale replacement and rehabilitation of existing facilities also fall within this category. To derive the maximum benefits from public funds, it is vitally important that municipal improvements be scheduled and coordinated so they are constructed in the proper sequence to meet growth demands. Once programmed, it is critical that the funding be earmarked and the planning, design, engineering and construction schedule is adhered to. This will give the capital improvements program validity.

Public improvement programs generally cover the scheduling of capital expenditures under a priority system for a revolving 5-year period. It is essential that these programs be coordinated with the Comprehensive Plan for consistency. An enhanced dialogue between the Departments of Public Works, Finance, and Planning would facilitate this coordination. The Joint Development Review Committee is a logical forum for accomplishing this. Projects scheduled for early execution are detailed so that proper

budgeting and financing can be arranged. The program is reviewed annually and at the same time projected ahead another year. In this way, there is a continuing program five years in advance. This assures that public projects will be completed where and when needed, and within the budget of the community.

Annexation

Evaluating Annexation Requests

Annexation is the process of expanding the corporate boundaries of the City. A basic requirement is that land to be annexed must be adjoining existing City boundaries. Annexation is desirable when expansion is consistent with plans for the orderly growth and development.

The Havre de Grace Annexation policy is expressed in Chapter 20 of the City Code, which states in part:

1. The City Council may consider and act upon a petition for the annexation of land contiguous and adjacent to the corporate limits of the City in order to promote the health, safety, welfare, and economic development of the City.
2. The annexation may be appropriate when it promotes coordinated planning for the area surrounding the land proposed for annexation, where it is consistent with the plans for the present and future development of the City, and where it will not result in isolated development inconsistent with surrounding land uses.
3. The annexation must contribute to the realization and/or furtherance of the goals and objectives of the Comprehensive Plan and any other corridor or small area plan.
4. The location relative to existing public facilities and a review of the City's ability to provide public facilities to serve the annexation area.
5. The development of relevant conditions for the protection and benefit of the residents of the City.
6. The annexation will not result in an adverse fiscal impact upon the City.
7. Upon approval of an annexation petition by the City Council, the petitioner shall not be permitted to amend or to otherwise change the terms of the annexation petition

Annexation of land should result in increasing the City tax base and expanding employment opportunities. Analysis of the costs and benefits of annexing certain land should be considered as well as any special conditions that should be met by the applicant petitioning for annexation. Annexation of land into the corporate boundaries should be of benefit to the City when all things are considered. To assist the City in making this determination, the applicant must develop and provide an *Annexation Justification Statement*. This statement should briefly address the following elements:

- The rationale for the annexation from the applicant's perspective.
- A description of the proposed land use.

- A comparison of the proposed land use to the Comprehensive Plan and the Zoning Ordinance.
- A description of the expected economic, environmental, and social impacts, both positive and negative.
- A description of services required as a result of the annexation, including water and sewer, fire and police protection, schools, libraries, and recreation.
- A statement of required services which will be provided by the applicant, the method of financing those services, and the schedule for completion.
- The reasons why the City should support the annexation proposal.
- A description of the process used and results of community notification and input regarding the proposed annexation.

Annexation may be initiated by a property owner (or owners) by filing a request, or petition, for annexation. The petition must be signed by not less than 25% of the persons residing on the property to be annexed and who are registered as voters in Harford County elections in the precinct(s) in which the land to be annexed is located; and by the owners of not less than 25% of the assessed valuation of the real property in the area to be annexed. In cases where an annexed area is not served by public water and sewer, temporary tax abatement may be provided. If the proposed zoning of the land to be annexed differs from that of the Harford County Master Plan/Land Use Element Plan, then the County Council must waive its control or the zoning must remain as designated by the County for a period of 5 years.

The legislative action required for annexation is the enactment of an *Annexation Resolution*. The annexation process is as follows:

- City Administration prepares an Annexation Plan according to State law. The Mayor and Council review the plan and approve it by Charter Resolution;
- The Department of Planning provides the Maryland Department of Planning and Harford County Department of Planning and Zoning with updates on the annexation process and public notices as required by law;
- Annexation is acted upon by the Mayor and City Council, consistent with the approved Annexation Plan, and after a public notification and hearing process has been completed;
- The Department of Planning requests Priority Funding Area status for properties that are currently served by water and sewer or are located within the 10-year service area per the biannual Harford County Water and Sewer Master Plan.

Other Implementation Tools

Code Enforcement and the Property Maintenance Code

The City of Havre de Grace utilizes its Code Enforcement program to enforce the upkeep of the City. Although there is presently only one Code Enforcement officer, the City's philosophy of canvassing

neighborhoods daily and discussion issues with residents has been successful. The Department of Planning also fields complaints from residents and looks into them regularly. The complaint system is behind the times and would also improve by allowing code enforcement notification to be made using an online application. This is part of the e-permitting software the City is looking to incorporate in the near future.

Outside of the provision in the Zoning Chapter of the City Code, Article I of Chapter 31 includes the adoption of the 2018 International Property Maintenance Code (IPMC), which is updated from time to time. The IPMC has more stringent requirements for the upkeep of property, which helps keep Havre de Grace beautiful. The IPMC requires houses to not have chipping paint, crumbling roofs, and other problems that require maintenance. While the City tries to work with residents when possible, the IPMC also provides options for fining residents when they are consistently out of compliance. The City is looking to determine when fines should be required and how to more consistently apply the IPMC.

Historic Preservation District

Under Section 97-4 of the City Code, the Historic Preservation Commission (HPC) was formed with the powers and duties listed under Section 97-5. The HPC does not have any enforcement powers, but plays an important role in supporting the vision of elected officials for the City's National Register Historic District (NRHD). The City does not have existing preservation guidelines or design standards, and the HPC also does not regularly review development plans in the City, but only requests for demolition.

Despite the HPC's lack of enforcement power, the group has been instrumental in urging use of historic design elements, including passage of an ordinance requiring houses along Union and Congress Avenues to align their front setback with their neighbors. With better guidelines and opportunities to review additional development in the City, the HPC could provide even better recommendations to staff and the Mayor and City Council to help in preserving the history of Havre de Grace.

Adequate Public Facilities

Chapter 2 of the City Code requires that all new development ensures there are adequate public facilities prior to development, specifically for schools, roads, and water and sewer. For small subdivisions, the Director of Public Works can waive some requirements. However, larger development must provide letters from the Director of Public Works and Harford County Board of Education as well as traffic impact analysis to ensure public facilities are not degraded upon completion of development. City staff from both the Departments of Planning and of Public Works should work with the Harford County Board of Education and other stakeholders in reviewing the existing ordinance from time to time to be sure it meets the current needs of the City.

Incentives

Beyond regulations and requirements, Havre de Grace has the opportunity to incentivize residents and businesses to develop in a certain manner. For instance, the City has provided tax breaks in the RO/Residential Office zoning district to encourage residential reuse of former office space. The State also offers a variety of programs and incentive opportunities. The following is a list of recent programs Havre de Grace should consider utilizing to assist in its effort to bring the visions of this plan into fruition:

- In 2006, **Maryland House Bill 1160** established a Workforce Housing Grant Program within the Maryland Department of Housing and Community Development (DHCD). To participate,

jurisdictions must adopt a Workforce Housing Element containing an assessment of needs, goals, objectives, and policies that preserve or develop workforce housing.

- ***The Sustainable Communities Act of 2010*** strengthens reinvestment and revitalization in Maryland's older communities by renewing an existing rehabilitation tax credit; creating Sustainable Communities to simplify the framework for designated target areas in the Community Legacy (CL) and Neighborhood Business Works (NBW) programs; establishing a new transportation focus in older communities; and enhancing the role of the Smart Growth Subcabinet (SGSC) in community revitalization.
- ***The 2013 Sustainable Communities Tax Increment Financing (TIF) Designation & Financing Law***
The TIF Law authorizes local governments to designate places as a Sustainable Community. In turn, the local government may finance the costs of infrastructure improvements in these areas in a manner similar to Maryland Department of Transportation (MDOT) designated Transit-Oriented Development (TOD) methods. These approaches include issuance of bonds, creation of special taxing districts, and tax increment financing. This allows local governments to make important infrastructure and asset investments in their Sustainable Community areas to spur economic development and ensure quality of life and livable communities.

The TIF Law provides for new funding uses that include historic preservation, environmental remediation, demolition, site preparation, parking lots, facilities, highways, or transit assets that support Sustainable Community residents, schools, and affordable or mixed-use housing. It gives Sustainable Communities the opportunity to utilize Maryland Economic Development Corporation (MEDCO) bonding authority, which can finance, acquire, develop, own, and/or operate projects for economic development purposes.

- The ***Maryland Historical Trust*** provides grants for capital projects and they administer the ***African-American Cultural Heritage Action Fund***, a program to assist in funding ongoing preservation activities for historic places.

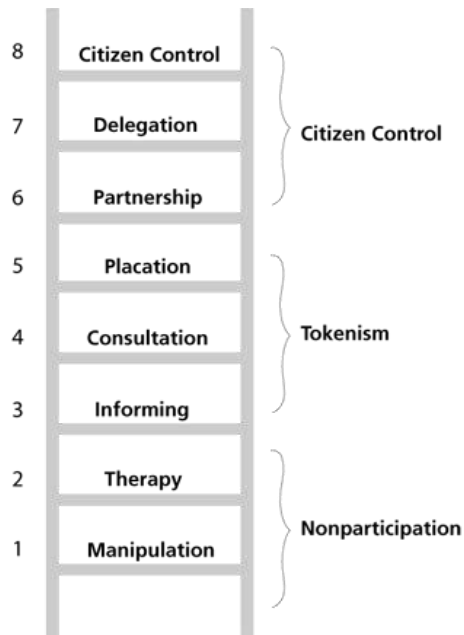
State Laws Requiring Local Implementation

In addition, other laws mandated by the State of Maryland are incorporated into local regulations which also apply to individual properties during the development process. The administration of those ordinances are accomplished by staff within the Department of Planning and/or the Department of Public Works during the development review process. The following is a list of regulations that govern actions during the site and subdivision review stages of the development process.

- ***Adequate Public Facilities***
- ***Chesapeake Bay Critical Area***
- ***Floodplain Management***
- ***Forest Conservation***
- ***Stormwater Management Ordinance***
- ***Grading and Filling*** as related to Sediment and Erosion Control

Community Participation

In her journal article, “A Ladder of Citizen Participation”, Sherry Arnstein discusses her now-famous idea of citizens’ participation in public policy. The ladder shows the different levels, ranging from low to high, concerning citizen participation in planning processes.



Arnstein's Ladder (1969)
Degrees of Citizen Participation

While creating this Comprehensive Plan, City staff put in their best effort to create opportunities for citizen control of the project. However, during the regulatory process, most of the effort consists of public hearings, either at the Planning Commission or the City Council level. There should be a greater effort to reach out to stakeholders and residents during all parts of the regulatory process to achieve more than tokenism levels of participation.

All activity of the Planning Commission is open to the public with opportunities for public comment. This includes review of site plans, subdivisions, and final plats as well as work sessions on all comprehensive planning or ordinance initiatives. All Board of Appeals hearings are also public, with public notification required. In addition, Mayor and City Council hearings on all matters – including land use issues relating to annexation, ordinance legislation, or the adoption of the Comprehensive Plan – are public and televised with opportunities for public comment. In this way, City Government is a very open process with numerous avenues for public comment.

Agendas for Planning Commission hearings and Board of Appeals cases are posted at the entrance of City Hall as well as on the City’s website prior to meetings. However, individuals interested in further information regarding development projects or the planning initiatives must actively seek the information themselves through City staff members. The City is moving to install an e-permitting and public notification system to better inform residents and make information easily available to everyone. It is a priority for the Department of Planning to seek funding for software and program implementation services in the near term.

MARYLAND PLANNING VISION #2: PUBLIC PARTICIPATION

In developing its Planning Visions, the State of Maryland recognized the importance of public participation. Planning Visions #2 does more than require public participation. The vision specifically states, “citizens are active partners”. Havre de Grace is sensitive to citizens’ responsibilities in achieving community goals.

While the City is always striving to be consistent with the Planning Visions, it is important to constantly review public participation efforts. A system must be created and consistently refined to ensure an environment conducive for active involvement in the

Coordination with Harford County Government

For annexations and development near municipal borders, coordination must occur with the State, Harford County and adjacent municipalities. Additionally, all jurisdictions coordinate on the biannual Harford County Water and Sewer Master Plan for the extension of infrastructure in a coordinated way. This is driven by Harford County land use policies which establishes a Development Envelope for urban growth. Finally, all jurisdictions coordinate on large-scale transportation priorities through the State's yearly Consolidated Transportation Plan (CTP) through coordinated annual priority letters.

Havre de Grace also benefits from a great relationship with Harford County for construction plan review and building inspections. This was required during the upsurge in new housing construction during the mid-2000s after major annexations resulted in greatly increased new home sales after subdivision. In addition, Harford County is a tremendous resource for Geographic Information System (GIS) support, supplying all jurisdictions with data that they could not afford on their own. Havre de Grace is fortunate to be the recipient of shared GIS data layers, whether it be through the County's webapp or through the gift of created data and downloaded information to be used for planning purposes.

Increased coordination between Havre de Grace and Harford County Government on land use issues is important. Planning initiatives between jurisdictions are not independent in their effects on each other, and it is key to recognize the close relationship between Harford County and all municipalities within the County. Changes in land use through annexation, large development projects, the transportation network, schools system needs, and the interrelated public utilities are just some of the major items that demand coordination. It is of utmost importance that all jurisdictions continue to coordinate for shared information and mutual cooperation for the benefit of citizens and stakeholders in Harford County.

Coordination with State Government

Havre de Grace along with all other Maryland municipalities are required to coordinate with State agencies through various programs. These programs include but are not limited to Priority Funding Area designation, Tier-system septic bill, water and sewer service designations, Enterprise Zone incentives, and other revitalization incentives to create the opportunity for reinvestment in older communities such as Havre de Grace.

Coordination with State government agencies is also key for the City of Havre de Grace. Major highway projects, park enhancements, and public facility improvements are provided through the State of Maryland's numerous capital funding agencies. In addition, technical support is also readily available. All projects located along a roadway under State jurisdiction are sent for review to the State Highway Administration (SHA). SHA provides permits for work in the right-of-way, approval of access permits and traffic studies to determine the impact of development.

The City works closely with Maryland Department of Planning for annexation and various planning initiatives as well as utilizes their technical and training support. The Department of Natural Resources provides technical assistance, environmental review (Chesapeake Bay Critical Area Commission, Forestry, etc.), and grant funding, such as that provided through Program Open Space. The Department of Commerce provides jurisdictions with support for business activity, facility improvements, and tax incentives (such as the Enterprise zone). Community revitalization and housing initiatives are provided through the Department of Housing and Community Development. Historic preservation is supported by Maryland Historical Trust. Finally, Maryland Department of the Environment provides funding for water and sewer facilities, technical assistance, and enforcement action. Havre de Grace will continue to work closely with State agencies and foster relationships as they are necessary to promote healthy growth.

Relationship to Other Plans

Harford County Water and Sewer Master Plan is the guiding plan for all of Harford County with regard to the extension of water and sewer facilities. This plan is updated every 6 months, in the fall and spring. Construction permits through the Maryland Department of the Environment require consistency and coordination between the various jurisdictions through this legislatively adopted document.

Harford County Department of Community Services Consolidated Plan is a 5-year plan that is required through the Federal Department of Housing and Urban Development. This plan describes how Harford County utilizes Federal, State, and local funds to address housing and community development needs of low to moderate income individuals and families in all of Harford County including municipalities. Annual action plans address the yearly progress of the Consolidated Plan.

Harford County Emergency Operations Plan is the plan for Harford County for large-scale emergencies. This plan determines the best escape routes and modes of transportation in the event of severe flooding, bombing, or chemical discharge from Aberdeen Proving Ground. Sections of this plan address the following: Reception and Mass Care; Police, Fire Rescue, and Emergency Medical Services; Public Works; Health, Medical, and Mortuary; Emergency Resources; and the Chemical Stockpile Emergency Preparedness Program.

Implementation Goals

The following are goals of any proposed future changes to the regulatory goals for the City:

- Monitor new State laws and adapt regulations as necessary to meet new requirements or to take advantage of new opportunities.
- Utilize the City's Capital Improvements Program, grant programs, and other incentives to assist in implementation of the Comprehensive Plan.
- Work closely with Harford County, State agencies, and adjacent municipalities concerning annexations and future development.
- Review existing ordinances and provide updates as needed to meet the needs of the City.
- Continue to improve on the public information and dissemination process.

Actions

Short-Term

- Upon completion of the Comprehensive Plan, look into hiring a consultant to perform a comprehensive review of the Zoning Code and make changes to modernize the ordinance.
- Develop a pre-development protocol, including the development of a Joint Development Review Committee.
- Purchase and implement an e-permitting system:
 - ✓ To assist in permitting code enforcement and other implementation efforts;
 - ✓ Provide the public with additional means of receiving information and providing feedback on development issues.

- Develop a code enforcement protocol for enforcing the Property Maintenance Code and Zoning Code, including when to seek fines;
 - ✓ Develop an abatement program to assist in repairing properties, rather than demolish them, when possible;
 - ✓ Look at ways to prevent repeat code offenders, including working closely with residents on issues that may be causing them to violate the code.

- Modify ordinances:
 - ✓ Modify the Planning Commission ordinance to be consistent with other recent changes to the Board of Appeals duties, site plan ordinance, and subdivision ordinance;
 - ✓ Consider making Conditional Uses a Planning Commission approval tied to the underlying land use approval as opposed to Board of Appeals action disconnected from land use review for development;
 - ✓ Define minor and major subdivisions and allow staff review of minor subdivision for increased efficiency in the development process;
 - ✓ Develop specific recreation/open space requirements under Subdivision Regulations;
 - ✓ Develop a 2-step site plan and subdivision approval process, to include a Preliminary approval where modifications can be recommended and Final review for approval by the Planning Commission;
 - ✓ Incorporate Forest Conservation and Landscaping approvals in the underlying land use application, not as separate administrative approvals;

- Increase public participation in planning processes through increased online notifications and advertised public forums. Active engagement by the public is desired.

Mid-Term

- Develop historic preservation guidelines and provide more duties to the Historic Preservation Commission in order to provide improved recommendations to the Mayor and Council on issues affecting the historic district.

- Explore the opportunity to implement elements of a Smart Cities initiative at a scale appropriate to Havre de Grace, where technology is utilized for infrastructure planning and use of space, resources, and energy for higher efficiency and resource planning.

7. ECONOMIC DEVELOPMENT AND TOURISM

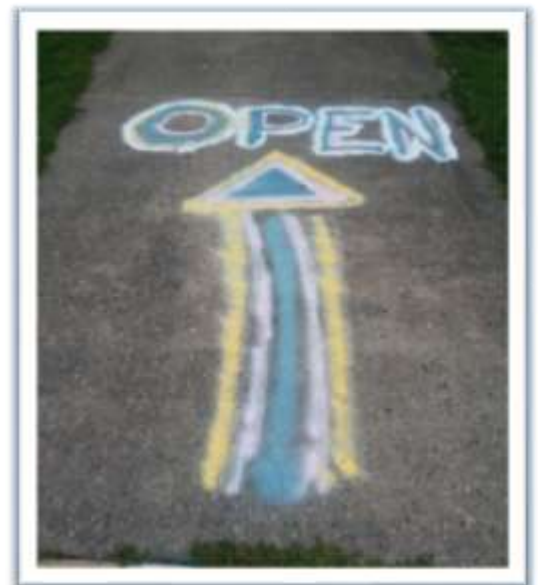
INTRODUCTION

Economic Development is a key component of ensuring a community is set to thrive in the future. It is one of the three pillars of sustainability – meaning a strong economy makes for a more sustainable community – with the other two being environmental and social sustainability. Although an Economic Development element is not required under the Maryland Land Use Act, it is undeniably crucial to the long-term vision of the City.

Havre de Grace has excellent assets from which to continue and to build its economic base. Its waterfront, its historic character with its unique downtown Main Street district, and small town charm make it a destination for day trips and weddings, meet-ups, and tourism. With its location at the top of the Chesapeake, it has a firm boating and marina niche as well as world-renowned recreational fishing. Many individual artists and organizations are aggressively building on the City's arts and entertainment focus, and trails and cycling options are expanding the destination aspects of this Upper Bay region. Heritage, arts, and eco-tourism elements are growing as economic drivers as well as building the City's attraction for new residents.

The City also has an industrial base that provides employment locally and regionally. Approximately 15 industries occupy the Chesapeake Industrial Park, the oldest industrial park in Harford County, and industrial land areas along Revolution and Juniata Streets. Industries such as Dunlop Protective Footwear, Evonik, TruRoots, and the recent expansion of Plastipak add to local employment and tax base revenues. Nearby, the City of Aberdeen and federal Department of Defense Aberdeen Proving Ground (APG) are easily accessed employment centers within 5 miles of Havre de Grace. Aberdeen itself has a wealth of commercial and industrial enterprises as well as the newly opened UM Upper Chesapeake Medical Center Aberdeen and APG is Harford County's largest employer and one of the largest employers in Maryland.

This chapter was developed through the combined efforts of the Economic Development Advisory Board (EDAB), Planning Commission, and staff from the Department of Economic Development and Tourism and the Department of Planning. Where appropriate, economic development policies have been added through the Comprehensive Plan document. For instance, many development and growth policies in the Land Use Plan come from economic development issues. This section is intended to be informational for current and future residents and businesses as well as be a guide for staff to recommend programs that are helpful for promoting job growth and business development.



The City of Havre de Grace and its Department of Economic Development and Tourism is committed to creating a planned and diversified local economy that creates opportunities for fairly paid employment and a strong local tax base, while respecting the unique quality of life that its residents and business owners treasure. To accomplish this, the City aims to create a proactive community and customer service program to support the vitality of existing businesses and encourage compatible new economic activities. This Economic Development and Tourism component of the Havre de Grace Comprehensive Plan aspires to lay out the means in which to do so.

DEPARTMENT OF ECONOMIC DEVELOPMENT AND TOURISM

Please see the Havre de Grace Official City Website for information about economic development and tourism.

Vision: To foster a business atmosphere that supports innovation, creativity, and economic vitality for the well-being of residents and business owners and is intrinsically connected within the region.

WHAT IS ECONOMIC DEVELOPMENT?

The American Planning Association released *Planning Advisory Service Report Number 541*, entitled *An Economic Development Toolbox: Strategies and Methods* (PAS 541). This publication defines economic development as follows:

Economic development is the process of improving a community's well-being through job creation, business growth, and income growth (factors that are the typical and reasonable focus of economic development policy), as well as through improvements to the wider social and natural environment that strengthens the economy.

PAS 541 further looks at 9 different factors that can give a community a comparative advantage in economic development matters. Those factors are listed below:

- Natural resources and supplies
- Building and land supply and markets
- Labor market
- Location relative to market and supplies
- Infrastructure and utilities
- Business clusters
- Amenity and other quality-of-life factors
- Housing costs
- Government policies

These factors are highlighted in Harford County's Economic Development website where 4 sectors are outlined and costs of living are spelled out. Their website shows Harford County as the ***premier location in the U. S. Mid-Atlantic with access to an educated workforce, business***



NASA/Earth at Night, Harford County location

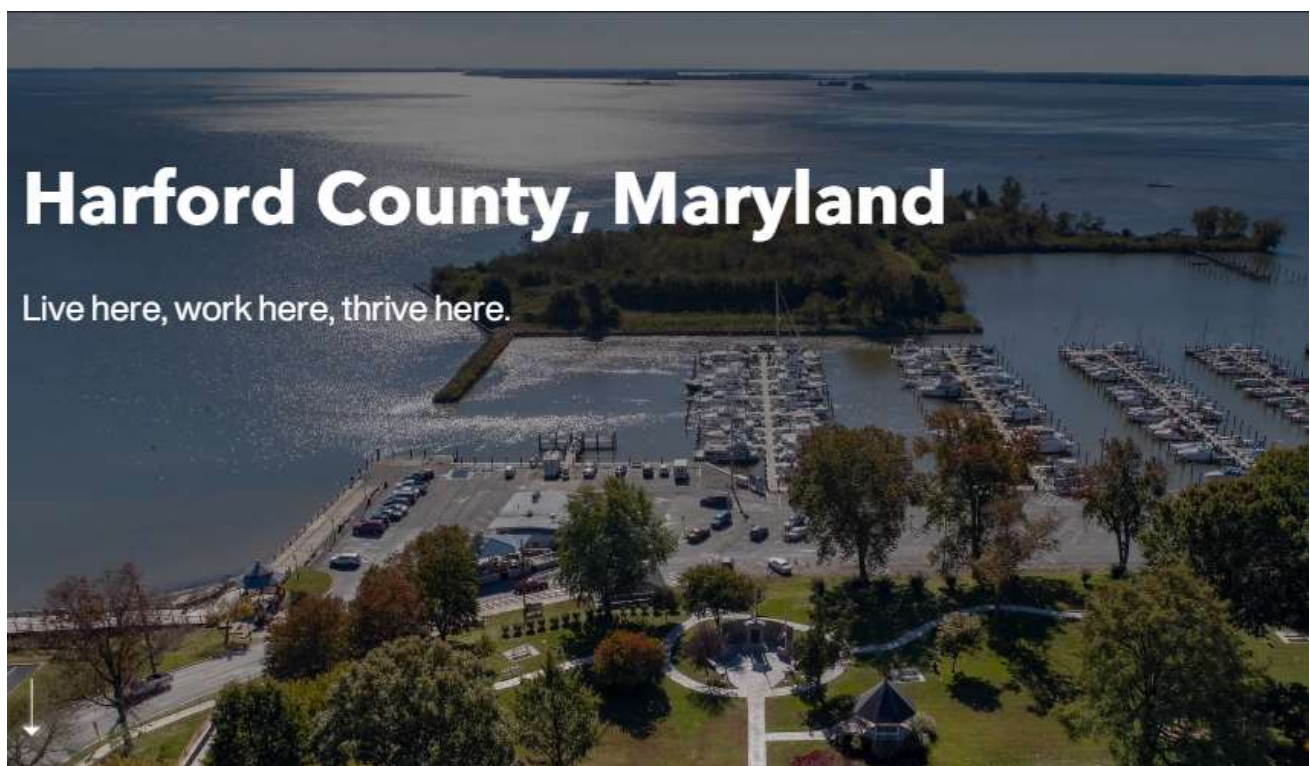
ecosystem, and total addressable market.

Havre de Grace is featured within the Harford County Economic Development website, specifically for the quality-of-life and the images that it captures. It speaks to Harford County's industries and sectors, to include: 1). defense and technology; 2).

health and medical services; 3). manufacturing, E-commerce, and distribution; and 4). financial and professional services. The Harford County interactive Economic Development website provides an excellent overview for attracting industry and commercial interests, illuminating the region's strengths and assets.

HARFORD COUNTY OFFICE OF ECONOMIC DEVELOPMENT

Please see the Harford County Website for information about economic development within the County.



Online marketing materials for Harford County featuring Havre de Grace

A more descriptive definition of economic development comes from the International Economic Development Council where:

Economic development is the intentional practice of improving economic well-being and quality of life of a community and includes a broad-range of activities to attract, create and retain jobs, and to foster a resilient, pro-growth tax base and an inclusive economy.

Themes of resilience, pro-growth, and inclusivity are coupled with an intentional practice to improve economic well-being and the quality of life resonate in a human way. This is what the City of Havre de Grace will aspire in growing its economic base. With direct access to I-95, US 40 and major rail lines, the City of Havre de Grace is ideally positioned for sustained economic growth. Initiatives by the City and by

Harford County are increasing focused on the role of Havre de Grace in Harford County's economic future. Looking at the many changes that have occurred within the City of Havre de Grace during the last decade, the City is poised for increased economic and tourist growth.

AREAS OF FOCUS WITHIN THE CITY

The City's downtown Main Street district is directly tied to its tourism, festival, arts, and entertainment focus. Featured are the City's quaint commercial area, the waterfront, growing and thriving arts venues, and historic district. These are inextricably linked and mutually supportive, ideally creating a critical mass for local shops, restaurants, pubs, and galleries. Capitalizing on the enjoyable backdrop of a picturesque small town, this is a year-round effort for the benefit of the local community residents and its businesses as well as attracting visitors.

The "Three words ..." word graphic to the right was part of a study for the waterfront "Water Market" attractions performed by the Clue Group for the Havre de Grace Business

Alliance in 2018. These words are most used to describe the City in a survey, capturing what is best about Havre de Grace. This is placed here to recognize what residents and visitors think about when asked to describe the City and what is important to retain about the City as it evolves over time. These descriptors are what makes Havre de Grace unique and it is the power of uniqueness that is and will continue to be a significant economic driver for the City¹.

"Three words..."



Study for Havre de Grace 'Water Market'
Clue Group June, 2018

MAIN STREET DISTRICT

The Main Street District is the historic commercial downtown of Havre de Grace and was designated as a Maryland Main Street community in 2005. This district is replete with restaurants and professional offices – law, financial, insurance, service – providing businesses to meet year-round residents' needs as well as the needs of visitors. Currently, the City is finalizing design for significant infrastructure improvements in the Main Street District which are necessary but will prove to be disruptive for a



¹ Where am I? The power of uniqueness, TEDxJacksonville, Ed McMahon, <https://www.youtube.com/watch?v=qB5tH4rt-x8>

time. Water and sewer line replacement will be followed by streetscape improvements which will create wider sidewalks and an improved pedestrian experience for the downtown, whether it be for street festivals, outdoor dining, or strolling.

The Main Street District is a core aspect of the City's charm and is a tourism engine of the City. The health of the area is vital for the identity of the City and all of its economic development initiatives. Designated as both a state and national Main Street community, the area lacks protections and controls to maintain it for the future. The following map shows the combined Havre de Grace Arts & Entertainment (A&E) and Main Street Districts, which were expanded in 2023.

In order to help ensure the downtown maintains its significance for future generations, the City should consider zoning regulations that focus on the specific historic elements and mixed-use nature of the neighborhood. The City of Annapolis enacted a Neighborhood Conservation District for their Eastport neighborhood that compiles regulations for various activities that should also be considered by the City of Havre de Grace for their downtown. The purpose of this new zoning district should be as follows:

- To preserve patterns of design and development in the mixed-use Main Street District characterized by a diversity of styles and common architectural elements;
- Ensure the preservation of a diversity of land uses, together with the protection of buildings, structures or areas, the destruction or alteration of which would disrupt the existing scale and architectural character of the neighborhoods.
- Protection of the architectural massing, composition and styles as well as neighborhood scale and character;
- Compatibility of new construction and structural alterations with the existing scale and character of surrounding properties;
- Encouragement of existing types of land uses that reflect the mixture and diversity of uses that have historically existed in the community; and
- The preservation of streetscapes.



Opening Day, Battery Island Brewery, May 2021



First Friday street festival, summer 2023



ARTS & ENTERTAINMENT

The City is increasingly focused on arts and entertainment with a goal of becoming a premier arts destination between Wilmington and Baltimore. Fine art ventures include privately-owned galleries, artist cooperatives, and generous arts-centered non-profits such as the Arts Collective and Harmer's Town Art Center. Publicly-supported theatre spaces include the intimate 200-seat Cultural Center at the Opera House and the recently acquired STAR Centre, which was the former high school auditorium and gym space that was too valuable to be torn down. The theater space has been modified to have fully compliant ADA seating and 900+ standard seats and has outstanding acoustics to host a wide range of music, dance, and performing arts. A private theatre venue, The State Theater of Havre de Grace, hosts bands, theatrical productions, and comedy in an amazingly intact historic movie theater in the center of the downtown.



Arts by the Bay Gallery, Arts Collective, photo from website



The Cultural Center at the Opera House opened in August, 2017.

The City is in its second year of a business plan for the STAR Centre with the goal of building the City as a destination for the arts. As per the business plan, it is well known that the arts foster economic development, revitalize urban areas, and improve the overall business climate by creating a more desirable community in which to live and work. The STAR Centre can host sporting events, conferences, festivals, and trade shows in addition to concerts and theater. This is an asset that the City is maximizing.



Collage of arts organizations in the City from the Economic Development StoryMap

TOURISM

The City started ramping up its tourism efforts with the hiring of a full-time tourism manager and opening of the Visitor Center on Pennington Avenue in 2002. Tourism was combined with the former Department of Economic Development in 2023 as it is a true economic driver for the City. Staff work directly with Visit Harford, Harford County's Destination Marketing Organization (DMO), and Havre de Grace is heavily featured as a tourism destination within the County.



Tourism is connected to the City's Main Street and A&E Districts as well as the beautiful, iconic waterfront where the Susquehanna River becomes the Chesapeake Bay. The City's tourism efforts are heightened by the value of being part of the Lower Susquehanna Heritage Greenway (LSHG), a Maryland Certified Heritage Area. Havre de Grace benefits greatly from the LSHG partnership which has a focus on creating trail networks, interpretative materials and programming, and grant-funding to preserve historic and cultural resources, all in

the name of heritage tourism. Widened trail connections to Susquehanna State Park to the north and the future Oakington Peninsula Park System to the south will increase access to these tremendous resources directly from Havre de Grace for enhanced eco-tourism in the region. Please see the full chapter, *Relationship to the Lower Susquehanna Heritage Greenway*, for more information.

The Department of Economic Development and Tourism collects metrics on visitor activity which can be accessed through their website. In addition, the Explore Havre de Grace website is a link to all activities within the City at any given time. Tourism is an industry that continues to be cultivated in the City due to the many intersecting layers that attract visitors, whether it be the natural features, historic integrity, or the stories there are to tell.



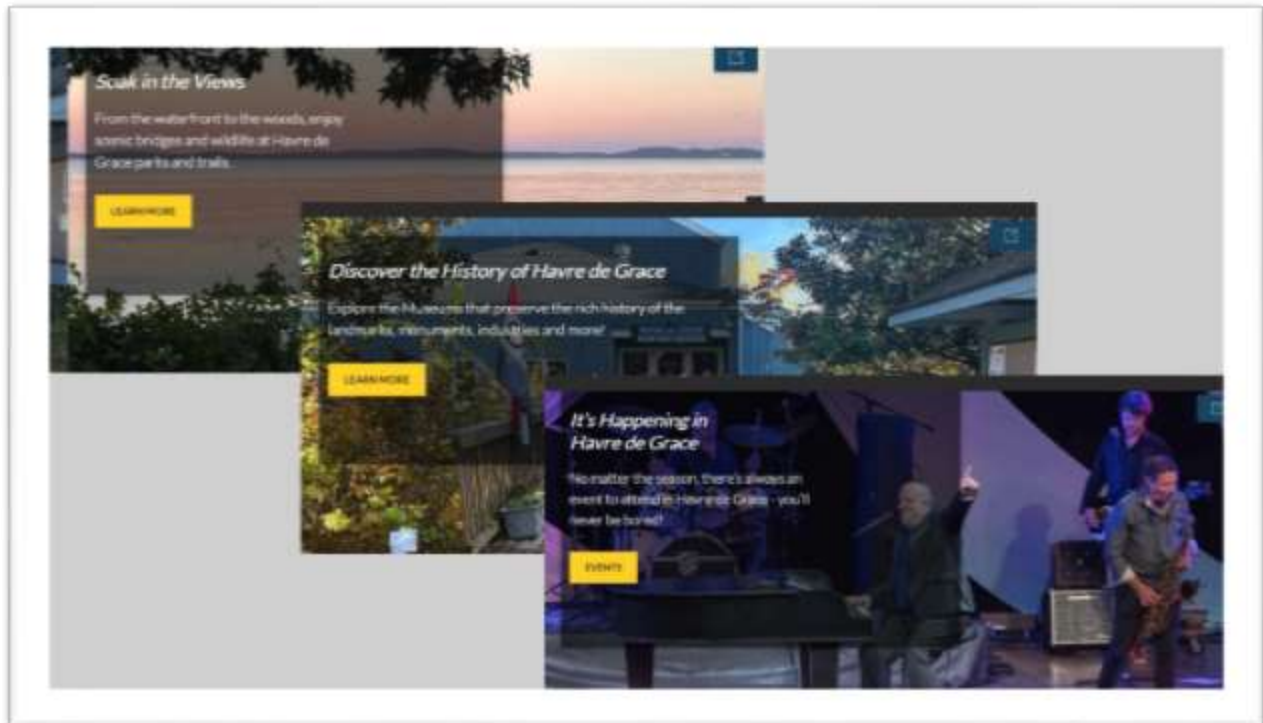
Pride of Baltimore II in Havre de Grace, summer 2023

National Park Service National Historic Trails (NHT) and resources:

- Captain John Smith Chesapeake NHT, <https://www.nps.gov/cajo/index.htm>
- Star-Spangled Banner NHT, <https://www.nps.gov/stsp/index.htm>
- Washington-Rochambeau Revolutionary Route NHT, <https://www.nps.gov/waro/index.htm>
- The September 11th National Memorial Trail, <https://www.911trail.org/>
- East Coast Greenway, <https://www.greenway.org/>
- Chesapeake Gateways, <https://www.nps.gov/locations/chesapeakebaywatershed/chesapeake-gateways.htm>



Images of the Havre de Grace Visitor Center



Array of images from the City's Explore Havre de Grace website

The City has a very active waterfront with boating and private marinas as a niche directly related to tourism. Kayaking and small craft are perfect for the Susquehanna Flats in the Upper Bay and larger boats can access Havre de Grace by a deep channel to the Lower Bay regions. This market is incredibly important for Havre de Grace, expanding the breadth of City's tourism reach. The City should support local business that feed these opportunities for Susquehanna River and Bay access.

EXPLORE HAVRE DE GRACE

Please see the Explore Havre de Grace website for information on events and places to experience.

REDEVELOPMENT OF UM HARFORD MEMORIAL HOSPITAL

At the center of the City's National Register Historic District (NRHD) is the site of the former University of Maryland Harford Memorial Hospital (UM HMH) site. The facility closed in February 2024 and all its uses vacated the building with the opening of UM Upper Chesapeake Health Aberdeen location the same day. The closing of this full-service hospital and its associated medical facilities is a huge loss for the City after it being a mainstay in the community and Harford County for over a century.

In advance of its closing, the City – through its Departments of Administration and Planning – have endeavored to create and adopt form-based zoning code changes that specifically address density and appropriate reuse of the site. City zoning at this location and the surrounding neighborhood is designated RO/Residential Office, and the City continues to support medical services that are located here. These

continued uses are vital to the community and include offices for specialized medicine along Union Avenue as well as sites along Revolution Street and Lewis Lane.

Through the consultant and with a robust community process, the form-based code is being completed as of this writing. How UM HMH and the associated properties are redeveloped will be instrumental in how Havre de Grace evolves as a regional destination. A mix of housing types at an appropriate density is anticipated at this location, with a recreated RO zoning district that will establish desired density and character of housing that will support the City's iconic NRHD.



Consultant rendering of future redevelopment of the UM Harford Memorial Hospital site

US 40 COMMERCIAL CORRIDOR

US 40 was originally developed as “America’s Main Street” in the 1930s. What was envisioned a long-time ago as a Route 66-fashioned thoroughfare with hotels, shops, and restaurants has not necessarily turned out that way. This is partially due to a lack of redevelopment along US 40, piecemeal annexation, lack of water and sewer infrastructure, and a lack of property maintenance laws and enforcement.

While redevelopment on US 40 has been slow, new development has occurred over the past decade. New businesses are required to meet the stricter City property maintenance and landscaping standards. MDOT SHA has also greatly improved its requirements for safe access to properties along US 40. Compliance with these new standards can be seen mostly on the west side of US 40.

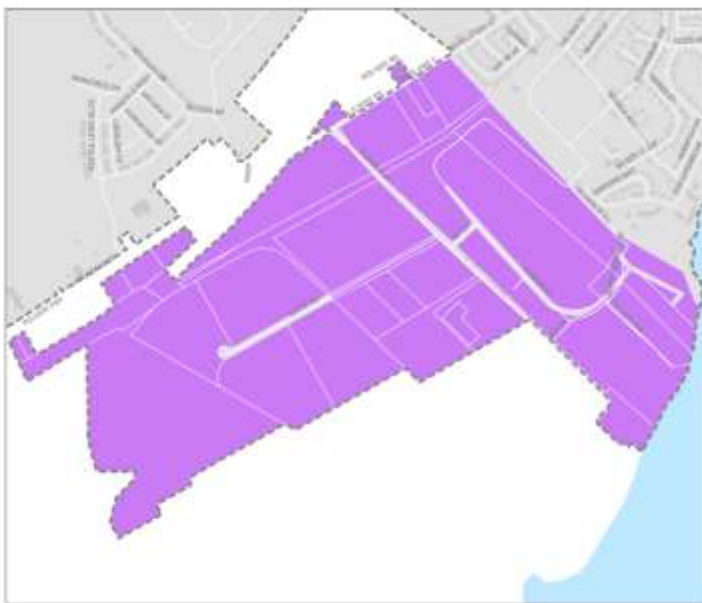
The east side of US 40 lacks water and sewer infrastructure that is needed for new development. New sewer construction north of Lewis Lane is cost cumbersome with few viable options except to bore underneath US 40 for service. Property owners have been unwilling to do this, leading to many vacant parcels or minimal redevelopment standards. A small area plan should be considered in coordination with Harford County, the City of Aberdeen, and MDOT SHA that provides solutions to the following issues:

- Comprehensive annexation plan that requires properties to meet the City's more stringent development standards;
- A coordinated plan to provide improved aesthetics along the road;
- Finalize design and construction of the US 40 Bicycle and Pedestrian Concept Plan between Aberdeen and Havre de Grace developed by the Baltimore Metropolitan Council (BMC);
- Develop practical, but more stringent property maintenance standards, focusing on an improved streetscape, landscaping and screening;
- Examine economic development trends and change allowed uses in the C/Commercial district to promote strong job creation, while preventing competition against businesses located downtown;
- Continue to provide opportunities for affordable housing mixed-use developments near transit options.

CHESAPEAKE INDUSTRIAL PARK

The Chesapeake Industrial Park is a major employment center and tax contributor to the City of Havre de Grace. With its location just off of US 40, and outside of the residential areas of Havre de Grace, it provides an employment center in a great location. While there are some vacancy fluctuations in the industrial park, many businesses are long-term occupants. The industrial park has seen growth in the development of a 157,000 SF warehouse for Plastipak's expansion completed in 2024. In addition, subdivision of 1601 Clark Road to develop a 160,000 square foot industrial space is working through environmental review with the state and Elite Comfort added 75 full-time jobs in a newer mattress facility at 1900 Clark Road.

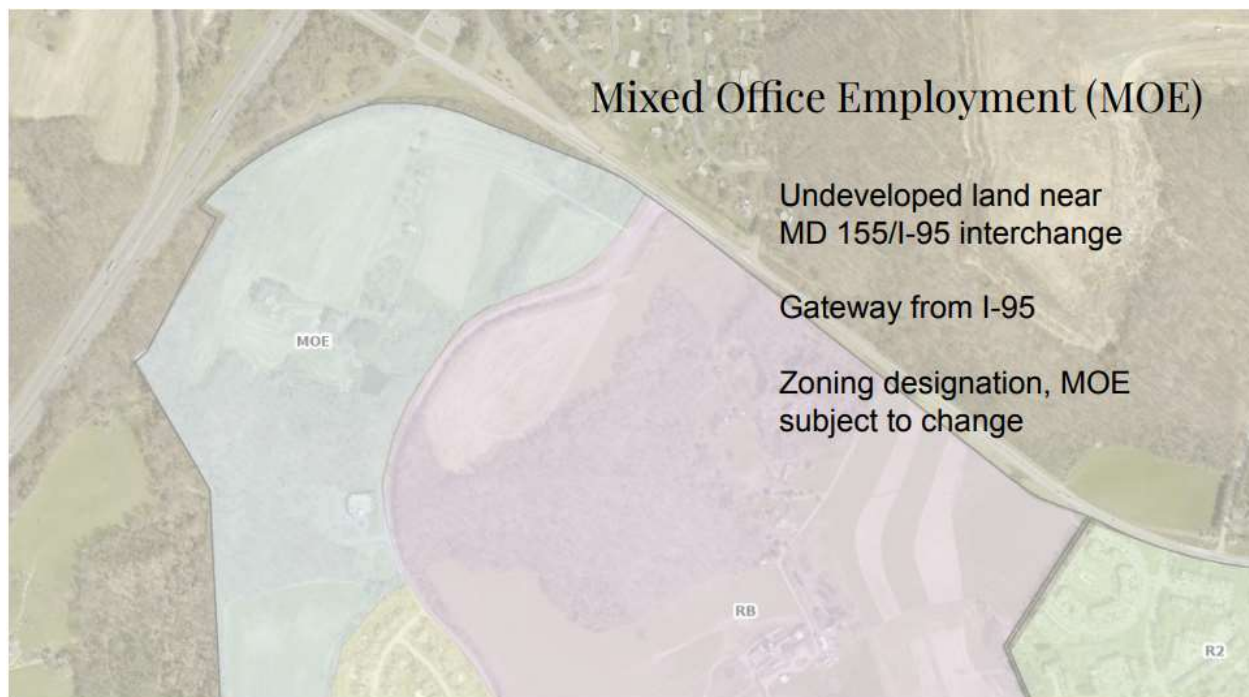
Although the park is limited in size compared to regional competitors, the Chesapeake Industrial Park serves a very important purpose and provides midsized industrial users the opportunity to operate at a reasonable cost. Additional growth can occur by seeking out new or small/growing businesses to utilize the space similarly to incubator space, with smaller processing facilities utilizing the functionality of the industrial park at their start-up stage.



MIXED OFFICE EMPLOYMENT AT I-95

The Mixed Office Employment, or MOE, site is property owned by UM Upper Chesapeake Health and an affiliated real estate trust which is in an ideal location for future non-residential development. With the I-95/MD 155 interchange exit located next to the site, highway access can be a major factor for future commercial, light industry, or other employment uses. The original zoning district for this location was developed to allow for the construction of a new hospital and accompanying commercial businesses in tandem with the primary medical use. However with Upper Chesapeake Medical relocating and expanding in Aberdeen and Bel Air, the original development plans are no longer valid.

A refinement of the MOE zoning may be necessary to accommodate uses that will provide residents of the region well-paying, sustainable jobs. Beyond the change of development plans, the zoning allows for higher intensity office development. With more people working from home after the COVID-19 epidemic, there is an abundance of already constructed, unused office space in the region. An economic study is required to examine future non-residential trends and to seize upon business attraction opportunities. In addition, there is a need for major water distribution infrastructure at or near this location to make it viable for development, to include a new water tower and distribution lines to meet the elevation.



Location of MOE adjacent to I-95/MD 155 interchange

PROXIMITY TO APG

The City's proximity to the federal installation of Aberdeen Proving Ground is a huge benefit, as it is one of Maryland's largest employers with more than 21,000 military, civilian, and contractor employees. Havre de Grace provides nearby living accommodations within an easy 5 miles to the gates and providing offsite opportunities for supporting services to APG. The related Chesapeake Science and Security Corridor (CSSC) Consortium is working to grow the region as a bio-manufacturing hub, bringing skilled manufacturing jobs to Northeastern Maryland. Championing all of these initiatives is the Army Alliance, a non-profit civic organization advocating for the well-being of the programs, people, and missions of Aberdeen Proving Ground. The scale of APG's impact to the region cannot be overstated. As per the Harford County Economic Development website description²:



Aberdeen Proving Ground is one of the most diversified military installations in the United States and the work that takes place at this 72,000-acre complex touches almost every aspect of U.S. military operations. Home to the world's leaders in research, development, testing and evaluation of materiel, APG military and civilian personnel have had a profound impact on the way wars are fought.

For much of its 95-year history, APG was known as a test and evaluation facility for the Army and home to ordnance troops. More recently, because of the Base Realignment and Closure Act of 2005 and other factors, APG evolved into a hub of research, development, and test and evaluation activity for the joint services. Not only has the installation grown larger, its role among military bases changed. Considered by military leaders as a "megabase," APG serves as a premiere center for science and technology.

Current information on the role of APG, its importance, and its mission can be found at the following links, as the information is too lengthy to include in this chapter.

- Aberdeen Proving Ground, <https://home.army.mil/apg/index.php>
- Army Alliance – APG, supporting the Chesapeake Science & Security Corridor, <http://www.apg-cssc.org/>
- Doing Business with APG, <https://www.harfordcountymd.gov/1224/Aberdeen-Proving-Ground>

² From <https://www.harfordcountymd.gov/1224/Aberdeen-Proving-Ground>

PROPERTY TAX BASE INFORMATION

Property tax information is available for the valuation of property within City-limits. With regard to the City property tax, all real property is currently taxed at the rate of \$0.565 per \$100.00 regardless of the property type. Valuations are performed by the State Department of Assessments and Taxation, or SDAT. Separate property taxes are billed through Harford County at a current rate of \$0.8413 for \$100.00 of assessed value within the City. The general breakdown between types of land use, i.e. industrial, commercial, or residential, and the percentage of property tax generated is outlined in the following table for FY2024.

Unsurprisingly, the property tax base within Havre de Grace is heavily reliant on residential property, with 84.31 % of property tax coming from residential, all types combined. Total property tax as outlined in a FY2024 data report is \$9,987,065. The range for property taxes (total collected each year) over the past 5 years was from \$8,848,978 at its lowest in FY2021 to its highest in FY2024 at \$9,987,065.

Property Type	No. of Properties Taxable, non-exempt	Tax Net Value by Type Land and Improvements	Total Taxes by Type	Percentage of Property Taxes
Industrial	25	\$ 96,474,800	\$ 545,198	5.41 %
Commercial	393	\$ 178,150,268	\$ 1,015,646	10.17 %
Residential	6,203	\$ 1,504,904,638	\$ 8,420,483	84.31 %

Data from FY2024 Department of Finance report from software utilizing SDAT valuations and tax billing

Personal property tax collected based on self-reporting businesses for the same year resulted in \$406,972 at \$1.705 per \$100.00 of assessed value of improvements (business equipment, fixtures, etc.). The range of personal property tax over the past 5 years is \$406,972 at the lowest (FY2024) to \$494,572 at the highest the prior year (FY 2023). This is a measure of business investment into their own facilities within the City on a yearly basis.

ECONOMIC BASE INFORMATION

An important step in examining the strengths and weaknesses of the local economy is to analyze and describe the local economic base. With Havre de Grace being a small city, data are not widely available from state and federal resources on the locality; most economic data exist at the Harford County level. In order to expand on County data, the City needs to work locally to collect data from existing businesses, developers, and stakeholders. A SWOT (strengths, weaknesses, opportunities, and threats) analysis should also be considered to provide a deeper vision on how to utilize information in this section and more detailed information from the community. The subsections below should be used as a building block to further define and sculpt local economic development initiatives.

ECONOMIC BASE ANALYSIS

The U.S. Cluster Mapping project was developed by the Harvard Business School to examine how different economic sectors—or clusters—are linked together. Information was collected in 2016 for Harford

County utilizing U.S. Census County Business Pattern data (Havre de Grace local data was not analyzed). The cluster mapping project looks at local clusters and “traded” clusters. Traded clusters serve markets in other regions or nations, and are concentrated in regions that afford specific competitive advantages. Local clusters sell products and services primarily for the local market and are located in every region.

Economic base analysis examines which of those parts of the economy are exported with the idea being that the more goods and services a local economy exports, the more the economy will grow. Identifying economic clusters that are local and traded, exported and potential employment growth can help in developing a strategy for business retention and attraction. This is discussed more in the subsections below.

ECONOMIC CLUSTERS

The Cluster Mapping project indicates that the Harford County economy is 71% local and 29% traded. The top clusters by employment are:

- Business Services;
- Distribution and Electronic Commerce;
- Education and Knowledge Creation;
- Hospitality and Tourism;
- Transportation and Logistics;
- Financial Services;
- Downstream Chemical Products.

These categories are defined under the North American Industry Classification System (NAICS). With a deeper dive into each of these clusters, more specific employment industries can be discovered. For the purposes of the Comprehensive Plan, this document is examining more summarized industries.

Using Location Quotient (LQ) analysis, and combining that with employment growth potential, we can examine which industries are emerging, which need some assistance and other industries that should be lower on the priority list. The discussion is provided below concerning traded clusters in Harford County.

IMPORTANT GROWTH INDUSTRIES (HIGH LQ/HIGH EMPLOYMENT GROWTH)

Retention and attraction strategies should be developed for the following:

- Distribution and Electronic Commerce (+5,021 jobs 1998 – 2016)
 - Warehousing and Storage
 - Electronic and Catalog Shopping
 - Wholesale of Drugs and Druggists’ Sundries
 - Wholesale of Food Products
 - Support Services

POTENTIAL EMERGING INDUSTRIES (HIGH LQ/LOW EMPLOYMENT GROWTH)

Retention strategies should be the focus of these sectors:

- Processed Chemical Products (Downstream Chemicals)
- Distribution and Electronic Commerce
 - Wholesale Trade Agents and Brokers
 - Wholesale of Professional and Commercial Equipment Sales
- Downstream Metals (+415 jobs 1998 – 2016)
 - Metal Products
 - Metal Containers
 - Fabricated Metal Structures
- Metalworking Technology (+218 jobs 1998 – 2016)
- Inorganic Chemicals (+175 jobs 1998 – 2016)
- Biopharmaceuticals (+165 jobs 1998 – 2016)
- Specialty Foods and Ingredients (+35 jobs 1998 – 2016)

IMPORTANT INDUSTRIES THAT MAY REQUIRE ATTENTION (LOW LQ/HIGH EMPLOYMENT GROWTH)

There were no industries listed in this category for the County.

INDUSTRIES OF LOWER PRIORITY IMPORTANCE (LOW LQ/LOW EMPLOYMENT GROWTH)

The industries below have high employment numbers in Harford County, but are on the decline.

- Music
- Environmental Services
- Plastics
- Footwear

SHIFT-SHARE ANALYSIS

The [Maryland Regional Economic Analysis Project](#) (REAP) reviews several economic development factors by region. Shift-share analysis examines whether the region is outperforming state and national trends. If the County is outperforming the state and nation in a specific industry, then it is operating more independently of larger economic trends. Economic sectors that follow larger trends are more reliant on the health of the larger economy. Below are some highlights from REAP for Harford County:

- Overall, Harford County's economy grew slightly slower than the national economy (14.8% versus 16.3%);
- Harford County's industry mixed "inclined toward industries with slower growth" and are other industries are underperforming their national counterparts;
- Harford County outperformed the nation in utilities, wholesale trade, transportation and warehousing, forestry, fishing and related industries, mining, and federal civilian employment sectors;

- Harford County underperformed the nation in the management of companies and enterprises, military, real estate rental and licensing and manufacturing sectors.

A good business attraction and retention strategy is to examine the sectors from the location quotient section above that are growth or emerging sectors and comparing them to sectors where the County is underperforming national growth. Identifying and attracting businesses in those sectors and/or examining policies that might be restricting growth in those sectors could help spur local growth.

LOCAL ECONOMIC DEVELOPMENT STRATEGIES AND RESOURCES

The *Planning Advisory Service* report mentioned earlier identifies these 8 items as being quintessential in any local economic development strategy:

1. Coordinate economic development programs and support services
2. Business development
3. Development incentives and financing
4. Business attraction and retention
5. Workforce education and training
6. Land supply
7. Infrastructure
8. Quality of life conducive to business innovation

Later recommendations discuss the development of a Comprehensive Economic Development Strategy (CEDS). The core of that document should build off these 8 areas. This comprehensive plan document does examine both land supply in the Land Use Element and the Municipal Growth element. The Water Resources Element looks at infrastructure and resources that are available for future growth. Any future economic growth strategies should look closely at these elements.

Further concerning infrastructure, a very important economic strategy is to have potential available land “shovel-ready”. Shovel-ready includes having infrastructure available to land for development, having incentive and financing opportunities prepared and having zoning and development rules in place to reduce unnecessary red tape. Any future strategic plan should not only identify available lands, but look at what gaps exist in order to make development more attractive. Below is a list of resources and incentives that are available for potential business development and expansion.

Resources and Incentives:

Maryland Department of Commerce, <https://commerce.maryland.gov/>

Enterprise Zone Tax Credit Program, <https://havredegracemd.gov/app/uploads/2019/03/EZ-Program.pdf>

Maryland SBDC, <https://www.marylandsbdc.org/>

Northern Region, SBDC, <https://www.marylandsbdc.org/locations/northern-region>

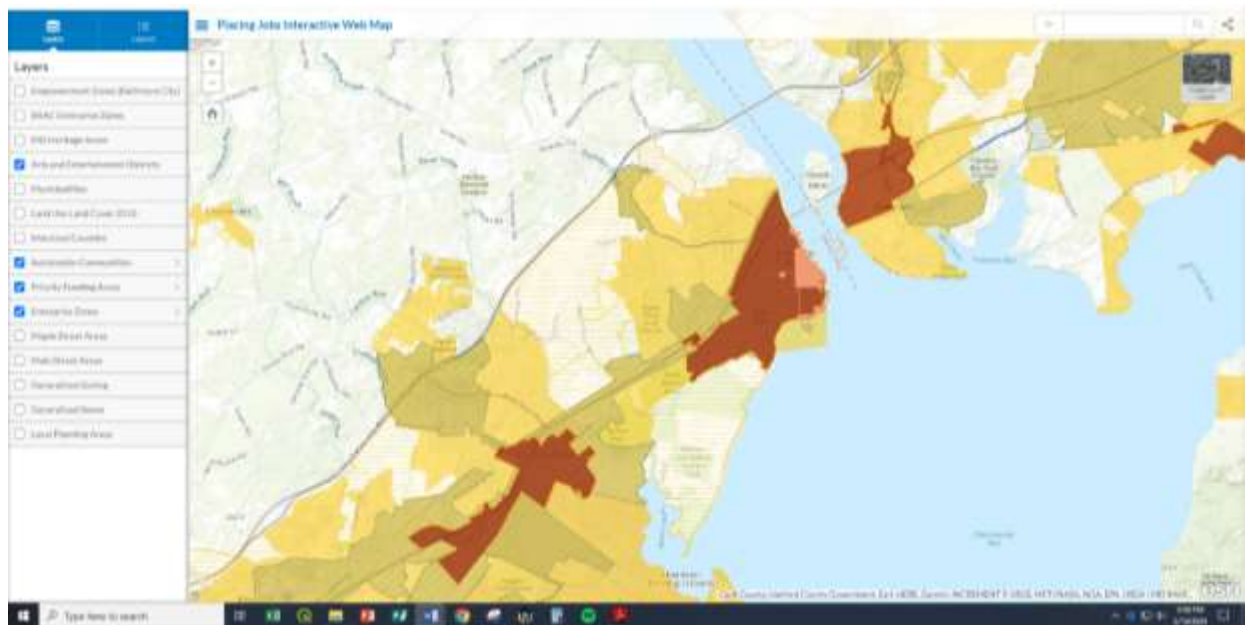
HdG Chamber of Commerce, <https://www.hdgchamber.com/>

STATE OF MARYLAND RESOURCES

PLACING JOBS – MARYLAND DEPARTMENT OF PLANNING INITIATIVE

Maryland Department of Planning's (MDP) **Placing Jobs** initiative assists local communities in developing an outline for economic development analysis and planning. This section utilizes information, data and advice from MDP to complete the various subsections of this element. More information about MDP's **Placing Jobs** initiative can be found on the MDP website.

Placing Jobs also has an excellent interactive web map that shows various incentive layers related to communities throughout Maryland. A screenshot of this tool shows various layers that Havre de Grace receives benefit from being designated, such as Enterprise Zone, A&E District, Priority Funding Area, Sustainable Communities, and Maryland Heritage Areas, just to name a few. This mapping tool is a great reference for these various program incentives which can be layered to provide grant funding sources.



Screenshot of Placing Jobs Interactive Web Map centered on Havre de Grace

GOALS, OBJECTIVES AND POLICIES

GOALS AND OBJECTIVES

EDAB and City staff discussed Economic Development throughout the development of this plan. The following goals were discussed during those sessions:

- Work to ensure lower income residents are not pushed out of the City and that Havre de Grace maintains its economic diversity;
- Work to improve infrastructure and find funding resources;
- Examine ways to improve broadband connectivity;
- Develop a small area/gateway plan for Revolution Street to Juniata Street;
- Revisit the Mixed-Office Employment zoning district to encourage development at that site;
- Provide better resident connectivity across US 40 into downtown;
- Investigate opportunities to deal with potential of sea level rise;
- Reconsider creating the Waterfront Overlay zoning district to address issues downtown and along the waterfront;
- Examine redevelopment of underutilized properties;
- Create a regional economic development strategy zone that looks into connecting Havre de Grace with surrounding communities.

Where applicable, these policies have been incorporated into the various elements throughout the Comprehensive Plan. Specific policies are discussed below that should be considered.

POLICIES AND STRATEGIES FOR ECONOMIC DEVELOPMENT

In order to see the City's future economic vision come to fruition, PAS 541 further states the following strategies should be considered:

- Coordinate economic development programs and support services;
- Engage in business development;
- Provide incentives and financing;
- Engage in business retention and attraction;
- Educate the workforce;
- Ensure an adequate land supply;
- Provide adequate infrastructure; and
- Provide a quality of life conducive to business innovation.

The Department of Economic Development and Tourism, with assistance from other City departments and advisory boards engages in many of these strategies on a daily basis. The information provided in this element works as a guide to assist staff with performing its daily functions. The City should consider developing a Comprehensive Economic Development Strategy (CEDS) or other strategic plan to further guide these efforts.

A CEDS or strategic plan should focus on the following items:

- Providing a regional focus for economic development strategies;
- Examining infrastructure needs and ways to make projects “shovel-ready” for development;
- Providing an economic analysis for the MOE property to utilize in the rezoning process;
- Reviewing the allowed uses in the Chesapeake Industrial Park and consider zoning changes to allow unique or emerging industries to give the industrial park a competitive advantage over nearby regional industrial parks;
- Developing and incorporating workforce education strategies; and
- Creating a coordinated approach for executing the strategies listed above.

8. WATER RESOURCES: SUPPLY AND PROTECTION

As one of three municipalities within Harford County, Havre de Grace is an independent jurisdiction that provides its own system for safe drinking water as well as operating its own wastewater treatment facility. This *Water Resources* chapter focuses on the issues relating to water for use, distribution, and consumption, wastewater collection and treatment, and management of stormwater run-off. This chapter also includes sections related to the City's role in the Chesapeake Clean Water Blueprint, shoreline projects that include water quality improvements, coastal and urban flooding, and issues of climate change and sea level rise. As a coastal community located at the upper reaches of the Chesapeake Bay tidal waters, Havre de Grace is directly affected by these issues. This chapter is a legislative requirement of the State of Maryland to ensure that adequate public facilities are achieved by all jurisdictions in their development to protect our valuable water resources for consumption and recreation and to enhance our regional efforts in improving the health of the Chesapeake Bay.

The ability to serve properties with public utilities, particularly water and sewer service, is a primary factor in determining existing land uses and future growth opportunities for any given jurisdiction. Public water and sewer are provided by the City of Havre de Grace through the Department of Public Works (DPW) and includes raw water intake, its treatment, and distribution and wastewater collection and

treatment. Additionally, stormwater management – for both the older portions of the City and in newer neighborhoods – is extremely important for the health of our surface water sources and, ultimately, the health of the Bay. One major goal of this *Water Resources* chapter is to ensure sufficient water supply and capacity and to identify suitable receiving waters for wastewater and stormwater impacts to support the City's planned land use. With the adoption of additional standards by the Maryland Department of Planning in 2022, recognition of climate change impacts, urban and coastal flooding, and the status of receiving water are more recent requirements from the State of Maryland to be included in this chapter on water resource protection.

WATER RESOURCES focuses on:

1. Interjurisdictional collaboration
2. Provision of safe drinking water
3. Wastewater collection and treatment
4. Management of stormwater runoff
5. Chesapeake Clean Water Blueprint
6. Shoreline projects
7. Coastal and urban flooding
8. Sea level rise and climate change impacts
9. List of technical resources

Vision: To thoroughly understand, appreciate, and protect our shared water resources that provide drinking water and a unique Upper Chesapeake Bay habitat.

Interjurisdictional Collaboration for Water and Sewer within Harford County

The City functions within a cooperative framework within Harford County for water and sewer planning. All municipalities coordinate with Harford County for determining growth areas and new service areas through the urban growth boundary of the Development Envelope. Havre de Grace – as well as the municipalities of Aberdeen and Bel Air – fall under the Harford County Water and Sewer Master Plan, which is updated biannually in the fall and spring. Treatment systems, major capital improvements, and future demand areas are all described in this plan and shows existing service areas and planned short-term (0-5 years), mid-term (6-10 years), and long-term (11-20 years) service areas for both water and sewer.

This arrangement was established in the 1970s in mutual agreement for expediency as opposed to having separate plans for each Harford County jurisdiction.

Limited inter-operability exists between Harford County, Havre de Grace, and Aberdeen for water distribution. The County has a sister plant adjacent to the City's water treatment plant on St. John Street for their own direct withdrawal from the Susquehanna River and can provide mutual redundancy. In June 2020, the Cities of Havre de Grace and Aberdeen created a partnership for the sale of finished water to Aberdeen and are in the process of installing a shared water line to serve Aberdeen and their growth needs on a limited basis. Because of the vast surface water source of the Susquehanna River, multiple water systems traverse this region for the purposes of redundancy serving the greater Baltimore metropolitan area.

Continued cooperation and good working relationships among jurisdictions are critical to the provision of water distribution and sewer collection services to the public. These are basic requirements to meet the needs of the more densely populated areas of the county identified as the Development Envelope. In addition, the jurisdictions also coordinate on large stormwater management projects, sharing credits at times for mutual benefit and, at times, purchasing of property like that on Water Street for shoreline enhancement. The City will continue to engage with Harford County and neighboring jurisdictions for mutual benefit and resource sharing.

Provision of Safe Drinking Water

The City of Havre de Grace owns and operates a water treatment plant located in the downtown adjacent to the waterfront. It withdraws and treats surface water from the Susquehanna River and distributes it to its customers through a series of pipes and strategically located storage tanks throughout the City. In its planning for growth, the City must ensure water capacity is available for development projects as they are built through guaranteed capacity when developments are recorded but also must provide long-range planning projections for overall development to be phased and constructed. The plant has a permitted capacity of 3.70 million gallons per day (mgd). Current average day usage is 1.558 mgd reported as of October 2023¹.

Public water service started in Havre de Grace as early as 1885 for fire suppression and public drinking water through a private plant located at the end of Warren Street near the shoreline. The City Water Works as it was called was a frame-constructed facility which was purchased by the City in 1926 and was operated under a Municipal Utilities Commission. The current brick masonry building on St. John Street was constructed in 1955 and has undergone upgrades over the years to keep up with maintenance requirements, technology, and capacity. Most recently in 2022, the City completed a 3-year project to modernize all operations at the treatment plant.

Havre de Grace is in a unique position to be located on such a large surface water source as the Susquehanna River. Its water treatment plant is located on the City's waterfront at the north end of the downtown business district on St. Johns Street. Immediately adjacent is the Harford County water treatment plant. The sister plants operate independently but share some facilities such as a sludge handling facility located closest to the waterfront in the rear of the building complex.

Both water treatment plants have their own raw water intakes located south of the Amtrak Railroad at the mouth of the Susquehanna River and are regulated by MDE. Other water intakes located to the north of the railroad are regulated by the Susquehanna River Basin Commission headquartered in

¹ Water Treatment Plant Capacity Analysis, October 19, 2023, Director of Department of Public Works.

Pennsylvania as well as by MDE, affecting regional water systems such as Baltimore City. This is important to the regional water systems that supply Harford County which uses water from the Susquehanna directly from its own plant, the Havre de Grace Treatment Plant, and the Baltimore City water system.

The City's water treatment facility is a conventional mixed-media filtration plant with chemical addition, flocculation, and sedimentation as the initial processes for treating the raw water. The water then passes through mixed-media filters, is disinfected, fluoridated, and sent into the distribution system for consumer use. As a surface water source, the raw water from the Susquehanna River is expensive and highly-treated due to the water's turbidity, requiring advanced technology for plant operations. Licensed operators run the plant 24 hours a day, supplying potable water to City customers. Residual sediment is processed in the shared, three-story sludge handling facility and collected for land application. Major upgrades to the water treatment plant were completed between 2020 and 2022.

The water distribution system is currently divided into 4 pressure zones (2 of which are smaller drop zones) and the system is being studied by engineering consultant GHD for operations related to the contracted sale of water to the City of Aberdeen. In June 2020, Havre de Grace signed a Memorandum of Agreement (MOA) with the City of Aberdeen to sell anywhere from 300,000 to 900,000 gallons per day of finished water to Aberdeen to serve its growth. The construction of a transmission line between the municipalities, timelines for construction, and water rates based on gallons per day are enumerated in the MOA. The GHD study, which is entitled *Havre de Grace Citywide Water System Hydraulic Model Update and Hydraulic Analysis*, outlines capital projects associated with the sale of water to Aberdeen and full build-out of Havre de Grace and its identified growth areas².

The City's distribution system consists of 2", 4", 6", 8", and 12" water mains throughout the older portions of town, with primarily 8" and 12" lines in the newer subdivisions. In addition, 3 large storage towers work in tandem to supply reserve water storage for the system as well as provide necessary pressure for fire suppression within the water system. With the GHD study as a guide, the City is determining capital improvement priorities within an ongoing 6-year budget program to plan and fund needed long-term improvements. The City is continuing to work with GHD for refinements related to capital budget planning for necessary water infrastructure improvements to serve the planned growth, specifically in those areas annexed near the I-95 interchange where there are limiting height and system factors that need to be addressed. System capital improvements include older waterline



² See full study by GHD, *Havre de Grace Citywide Water System Hydraulic Model Update and Hydraulic Analysis*, January 29, 2021 for more information located in the Supporting Resources section. Additional hydraulic model/hydraulic analysis studies are ongoing to refine capital budgeting and timelines for implementation priorities, to include technical memoranda in 2022 and 2023 to evaluate optimal phasing.

replacements, relining of water lines, and valve replacements to ensure upgraded facilities in an aging system.

As part of the Harford County Development Envelope, the City is identified as part of the County's growth area and it is necessary to estimate water capacity needs for planned development projects. Table 1 shows anticipated future demand and includes current use requirements, potential infill projects, and known areas for development. The methodology for calculating daily water needs is based on an allowance of 250 gallons per day per the GHD study for estimated dwelling units (EDU) for residential projects. The GHD study includes allowances for commercial retail, office, and institutional based on square footage. These residential and commercial water requirements are consistent with design guidelines used by the City in their Water Supply Capacity Management Plans required by MDE.

The information in this table is based on residential development capacity calculated in the Municipal Growth Element as of January 2023 as well as estimates for all identified future demand areas, including non-residential areas such as the MOE and US 40 Commercial growth areas. Most projects are already incorporated in the City, such as the Bulle Rock Planned Adult Community and Greenway Farm. However, several residential communities located outside of City limits, such as Shawnee Brooke, Havre de Grace Heights, and Susquehanna River Hills, are included for future water capacity only in the event that they have reduced well yields that require public water in the future.

Estimated current water usage is 1.588 mgd with a maximum day of 2.40 mgd based on a factor of 1.54 from GHD modeling studies. Future demand is estimated in Table 1 with maximum day demand noted as subtotals by area. These calculations do not include any sale of finished water to the City of Aberdeen. Currently based on 2020 Census information, the City of Havre de Grace plant serves a population of 14,807 people as well as serving local commercial businesses, institutional uses, and industry. Careful monitoring of water usage as development occurs will be ongoing and initiatives for conserving water should be explored to maximize resources in drought conditions. At such a time that the use requirements for the water treatment plant is greater than 80%, MDE requires Water Supply Capacity Management Plans to ensure adequate supply and the plant capacity is even more closely monitored thereafter.

The City has an adequate water supply that will continue to serve the City's growth. Because the Susquehanna River is such a reliable source of raw water, the potential to expand plant capacity is possible. The City will continue to work directly with Harford County Government for biannual updates of the Harford County Water and Sewer Master Plan to ensure continued cooperation and long-range facilities planning as required by law.

Protection of the Susquehanna River as a water source is extremely important for all who utilize it – for human consumption, recreation, habitat, and fisheries. The quality of the Susquehanna River is dependent on many states and local jurisdictions, requiring a regional, interstate approach to its long-term viability. Nowhere is the importance of this more evident than in communities like Havre de Grace, where the public's drinking water comes from the surface water of the Susquehanna. Aggressive efforts to curb pollution at the state and federal levels are part of the Chesapeake Bay Clean Water Blueprint, which is described later in this chapter. This effort ensures that everyone shares in the responsibility for cleaning up waterways of the Chesapeake by setting 2-year milestones for incremental pollution reduction with enforcement at the federal level to impose consequences if states and localities fail to meet their commitments³.

³ From Chesapeake Bay Foundation, Chesapeake Clean Water Blueprint page at www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/what-is-the-chesapeake-clean-water-blueprint.html

TABLE 1, COMPREHENSIVE PLAN ESTIMATED WATER DEMAND

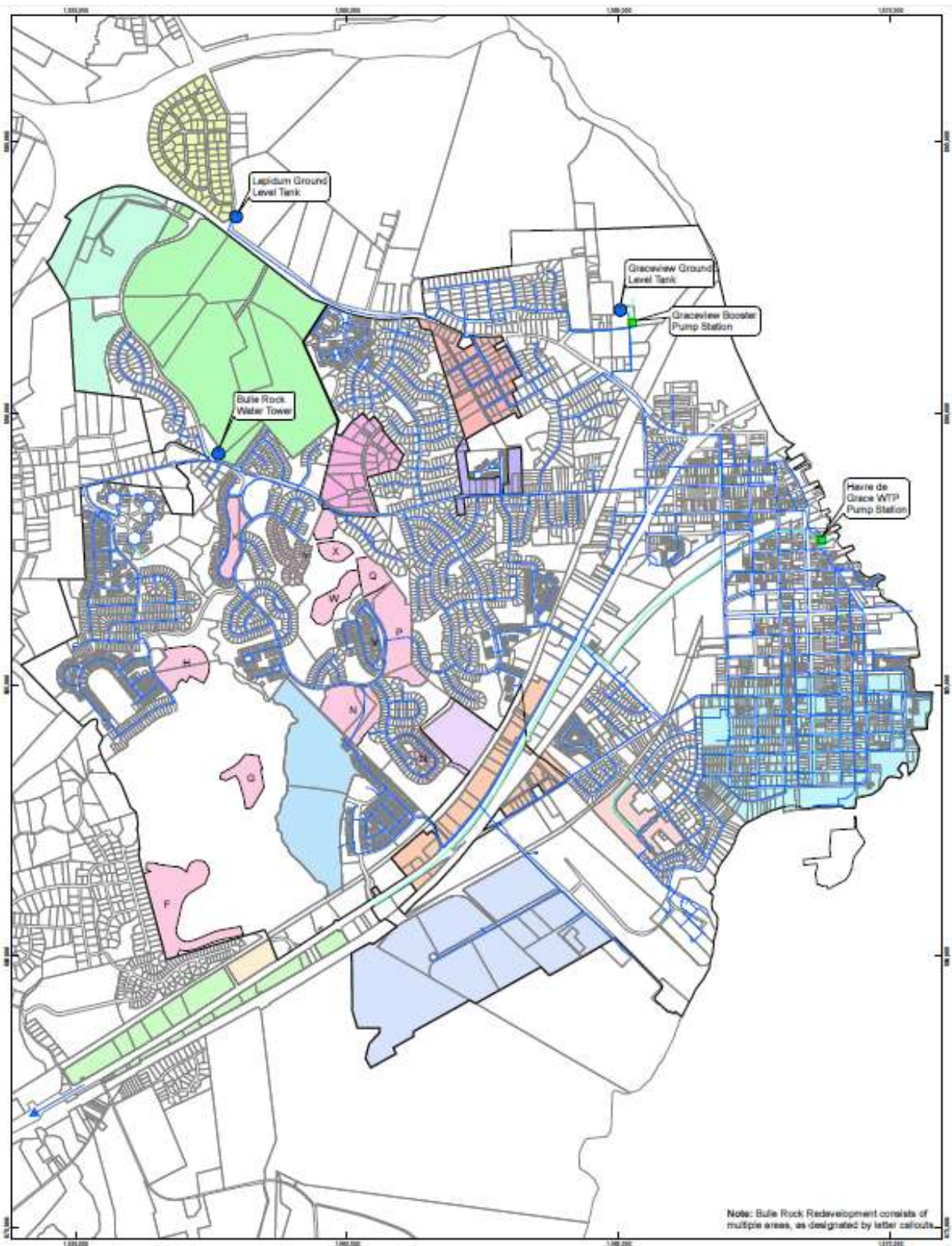
	Average Day (Gallon/Day)	Subtotals by Area
<u>Current Use Requirements⁴</u>	1,558,400	1,558,400 <i>Max Day Demand 2.40 MGD</i>
<u>Developing Areas⁵</u>		
Blenheim Run; 111 units and mixed-use commercial	30,450	
Bulle Rock; 569 units remaining, January 2023	142,250	
Green/Ianniello/Patrone annexed properties; estimated 500 units and mixed-use commercial ⁶	190,000	
Greenway Farm; 284 units remaining	71,000	
Lampson Property; 40 units	10,000	
Mixed Office Employment; MOE/I-95 interchange	187,500	
Old Bay Lane; Industrial redevelopment	100,000	
Old Town; Infill estimated at 75 units	18,750	
Tranquility homes; Redevelopment 150 units	37,500	787,450 <i>Max Day Demand 1.21 MGD</i>
<u>Future Growth Areas</u>		
US 40 Section 1; Commercial (66,000 SF)	11,880	
US 40 Section 2; Commercial (38,000 SF)	6,840	18,720 <i>Max Day Demand 29,000 gpd</i>
<u>Future Service Areas Based on Need</u>		
Chapel Road; 12 units	3,000	
Havre de Grace Heights; 22 units	5,500	
Shawnee Brooke; 24 units	6,000	
Susquehanna Hills; 95 units	23,750	38,250 <i>Max Day Demand 59,000 gpd</i>
Total Estimated Water Demand		2,402,820⁷ <i>Max Day Demand 3.70 MGD</i>

⁴ From Water Treatment Plant Capacity Analysis, October 19, 2023, Director of Department of Public Works

⁵ Demand is based on estimated units known as of January 1, 2023 and coincide with the residential estimates from the *Municipal Growth Element: A Strategy for Growth* chapter. These calculations may be modified in future water demand analyses and technical studies performed by engineering consultants GHD, which are ongoing.

⁶ Estimated 500 equivalent dwelling units used as a factor at 125, 000 gpd with additional 65,000 gpd for commercial mixed-use.

⁷ Estimated water demand does not reflect the sale of water to the City of Aberdeen (300,000 to 900,000 gpd) anticipated by the Memorandum of Agreement from June 2020. Initial demand from Aberdeen is 500,000 gpd.



Legend

Pump	Municipal Boundary	Future Demand Areas	Green-Tancredi-Patone Prop	MOE	Guacahama Hills
Tank	Cadastral	Bierheim Run	Greenway Farms Phase 2 & 3	Old Bay Lane Indust. Redevelop	Tranquility Homes Redevelop
Water Pipe (Active)	Aberdeen Interconnection	Bullie Rock Redevelop	Havre de Grace Heights	Old Town Infill	US Route 40 - Section 1
Water Pipe (Inactive)		Chapel Road Properties	Lampson Property	Shamsee Brooke	US Route 40 - Section 2

Paper Size ANSI B
0 400 800 1,600 2,400 3,200
Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Maryland FIPS 1600 Feet



City of Havre de Grace
Water System Hydraulic Model Update

Future Demand Areas

Job Number: 11201039
Revision: A
Date: Jan 16, 2021

Figure A-3

Opportunities for additional water sources should be explored as the need for reliable water supplies are – and will continue to be – a growing necessity. Consideration for the Vulcan Materials quarry as a reservoir and ground water source would greatly enhance our supply options locally and would potentially improve the water quality of raw water for treatment. This massive hard rock quarry is located immediately adjacent to Havre de Grace to the north. In the long-term, Havre de Grace could increase its role as a point of finished water supply to the broader region. This effort would need to be studied extensively and could proceed only after site mining is complete and with concurrence of private property owners. This is in consideration of the potential for a rise in salinity at the City’s water intake in the future due to climate change and whether the estuarine salt lens will come farther up the Bay.

Staff members will continue to consult with the Havre de Grace Water and Sewer Commission to advise the Mayor, City Council, and Administration on its long-range capital improvement program, operational cost structure, and rate setting. Through DPW, professional operators will continue to oversee successful operations and high-quality water supply to City customers and skilled staff will implement ongoing improvements and oversight to the distribution system. Yearly federal reporting requirements offer the public a published report of finished water quality so that customers are assured that their water supply meets or exceeds water quality standards.

Actions for the Provision of Safe Drinking Water

- Continue to maximize the City’s updated water treatment plant which has been outfitted with new SCADA systems (Supervisory Control and Data Acquisition), valves, filter controls, and chemical feed systems for improved efficiency, sustainability, and safety.
- Continue to work with engineering consultant GHD for identifying necessary system-wide capital improvements to serve the City’s current customers and planned growth areas as well as accommodating the contracted sale of finished water to the City of Aberdeen.
- Continue to monitor capacity of water treatment plant to serve current City demand and future residential, commercial, and industrial growth.
- Continue to coordinate with Harford County regarding semi-annual revisions to the Harford County Water and Sewer Master Plan for planning water service area extensions and timelines.
- Continue to implement system upgrades and renewal as needed which will provide efficiency, sustainability, and safety for water distribution system.
- Continue to support the interrelated water systems within Harford County to ensure adequate drinking water within the City of Havre de Grace, Aberdeen, Harford County, and the Baltimore Metropolitan Region.
- Annually revise 10-year capital improvement program for water infrastructure so that needed capital projects continue to be identified and funded in a fiscally responsible manner.
- Continue to utilize the advice of the Havre de Grace Water and Sewer Commission for the annual review of water and sewer rates, fee structure, and 10-year capital improvement program. Responsibilities include determining the strategic direction of the Water and Sewer Enterprise Fund (Fund 9) and establishing and monitoring operational goals and

objectives.

- Continue to attract and retain highly-trained licensed professionals to operate the water treatment plant within the regulatory structure of Maryland Department of Environment Water Management Administration and federal law.

Wastewater Collection and Treatment

The City of Havre de Grace operates its own wastewater treatment plant located at the southern edge of the City's shoreline, which has a current permitted design flow for treating 3.03 million gallons of effluent per day⁸ for the citizens and businesses located within the City. Improvements were made with the latest technology for enhanced nutrient removal (ENR) in December 2009 as a requirement of the Chesapeake Bay Restoration Act. This technology significantly reduced nitrogen and phosphorus in the treated effluent that is discharged into the Chesapeake Bay which are the City's receiving waters for its treated effluent. ENR requires annual average nutrient goals of effluent quality of total nitrogen (TN) at 3 mg/L and total phosphorus (TP) at 0.3 mg/L. These treatment plant upgrades placed Havre de Grace at the forefront of technology and timeliness for achieving Bay restoration goals with its early implementation.

The City also owns and operates a system of gravity sewer lines, force mains, and pumping stations which collect household, commercial, and industrial effluent and send it to the wastewater treatment plant, all which need to be continuously maintained. All improved properties within City limits are served by public sewer and are billed for this service on a quarterly basis. The series of sewer lines consist of pipes that have been recently installed from new development as Havre de Grace expanded its borders and those from over a century ago. Older areas of the City suffer from aging sewer lines, which pose a particular challenge for maintenance. Disintegrating lines and aging pipe intersections allow for inflow of stormwater in rain events and cause the treatment plant to have to process high daily flows. DPW staff have been aggressively working to eliminate such sources of inflow or flooding of the sewer collection system, commonly referred to as I&I for inflow and infiltration. Due to continued improvements, the City has regained measureable treatment plant capacity and staff continue to be vigilant in reducing inflow in an effort to reduce costs and increase plant efficiency.

Havre de Grace constructed its first sewage collection system in 1910 as a combined sanitary and stormwater gravity flow system with raw sewage discharging directly into the Susquehanna River. Havre de Grace completed its first wastewater treatment facility in 1967 at the south shore of the City adjacent to the Maryland National Guard property where it is currently located. This plant was designed to provide primary treatment only, meaning that the solids were settled out and effluent disinfected before release into the Bay. Improvements to the wastewater treatment plant were completed in 1986 to provide secondary treatment which enlisted biological processes for the treatment of the City's effluent and provided surge tanks for storm flow control, dewatering facilities, a lab, and a composting facility for the reuse of sludge. To meet State water quality goals set in 1987, BNR, or biological nutrient removal, was added to the facility to deal with nitrogen and phosphorous removal. The more-recent ENR upgrades reach the limits of technology for removing nutrients, a leading cause of the degradation of the Bay.

As of May 2023, the City processes an average of 1.70 mgd per day and the plant has a permitted flow of 3.03 mgd. As mentioned earlier, state-of-the-art ENR technology must meet concentrations of 3.0mg/L or less of total nitrogen (TN) and 0.3 mg/L or less of total phosphorous (TP); the City's WWTP has met this

⁸ The physical capacity rated/design flow of the City's wastewater treatment plant is 4.84 mgd; however, the permitted flow from MDE is 3.03 mgd.

requirement every year since 2011 reporting after refinement in its first operational year of 2010. To continue to meet State requirements, nutrient load caps must be maintained at an annual average concentration of 4.0 mg/L TN and 0.3 mg/L TP⁹ for a plant the size of Havre de Grace (> 500,000 gpd), with an annual cap for TN of 27,715 lbs/year and 2,079 lbs/year for TP based on a 2.3 mgd flow. Additional flow can be accommodated (up to 2.8 mgd) as long as the annual average nutrient levels stay within MDE requirements.

The City's ENR plant discharges directly into the Chesapeake Bay. One of the requirements of the Water Resources Element is to discuss the suitability of receiving waters for effluent discharge. As the City does not discharge into a tributary with identified impairments for limited assimilative capacity, Havre de Grace is in a good position for continuing to build its designated growth areas within the City. State and Federal requirements for the Bay are ongoing and being addressed through the EPA's Chesapeake Bay Total Maximum Daily Load (TMDL), which outlines requirements affecting nutrient limits and the City's growth.

Table 2 shows the City's estimated capacity demand of current usage, developing, and future growth areas which is estimated to be 2.51 mgd. At a current flow of 1.70 mgd, the Havre de Grace WWTP facility has sufficient capacity to serve a growing community, however flow over 2.3 mgd as a result of growth will require close monitoring by MDE for nutrient reduction. As stated above, nutrient caps (for TN and TP) for the City's ENR plant are based on 2.3 mgd. Any additional flow greater than 2.3 mgd would require ENR treatment levels no greater than 3.25 mg/L TN. If the City cannot achieve this level of nutrient treatment and can only expect to achieve 4 mg/L TN, then the WWTP cap would present a constraint to implementing the land use plan for new growth. If this were the case, the City could pursue land application for nutrient offloading to stay within required limits or modify its land use plan for serving future growth areas.

An allowance of 250 gallons per day per estimated dwelling unit (EDU) is used for residential projects. For commercial flows, an allowance of 1,200 gallons per day per acre of commercial land is used. These residential and commercial unit flow values are consistent with the design guidelines used by the City in wastewater capacity management plans required by MDE. The information in this table is based on residential development capacity calculated in the Municipal Growth Element as of January 1, 2023 and estimates for identified growth areas for full build-out of the Comprehensive Plan Areas.

Table 2 includes capacity estimates for all planned projects and growth areas identified in 2023 and will allow full build-out. Currently, the City of Havre de Grace WWTP serves an estimated population of 14,807¹⁰ people as of January 1, 2020 as well as local businesses, institutional uses, and industry. Some areas identified on the map – such as Shawnee Brooke and Havre de Grace Heights – are included for water service in the event of failing wells, however full incorporation into the City with sewer service could also be considered based on public need. These projects will be evaluated on a case-by-case basis to ensure that adequate facility capacity for both water and sewer is available to accommodate them. The City will continue to work within the framework of the Harford County Water and Sewer Master Plan for service area planning with direct oversight by MDE and Harford County Health Department.

⁹ Maryland's Chesapeake Bay Tributary Strategy Statewide Implementation Plan, January 24, 2008

¹⁰ Based on 2020 Census information.

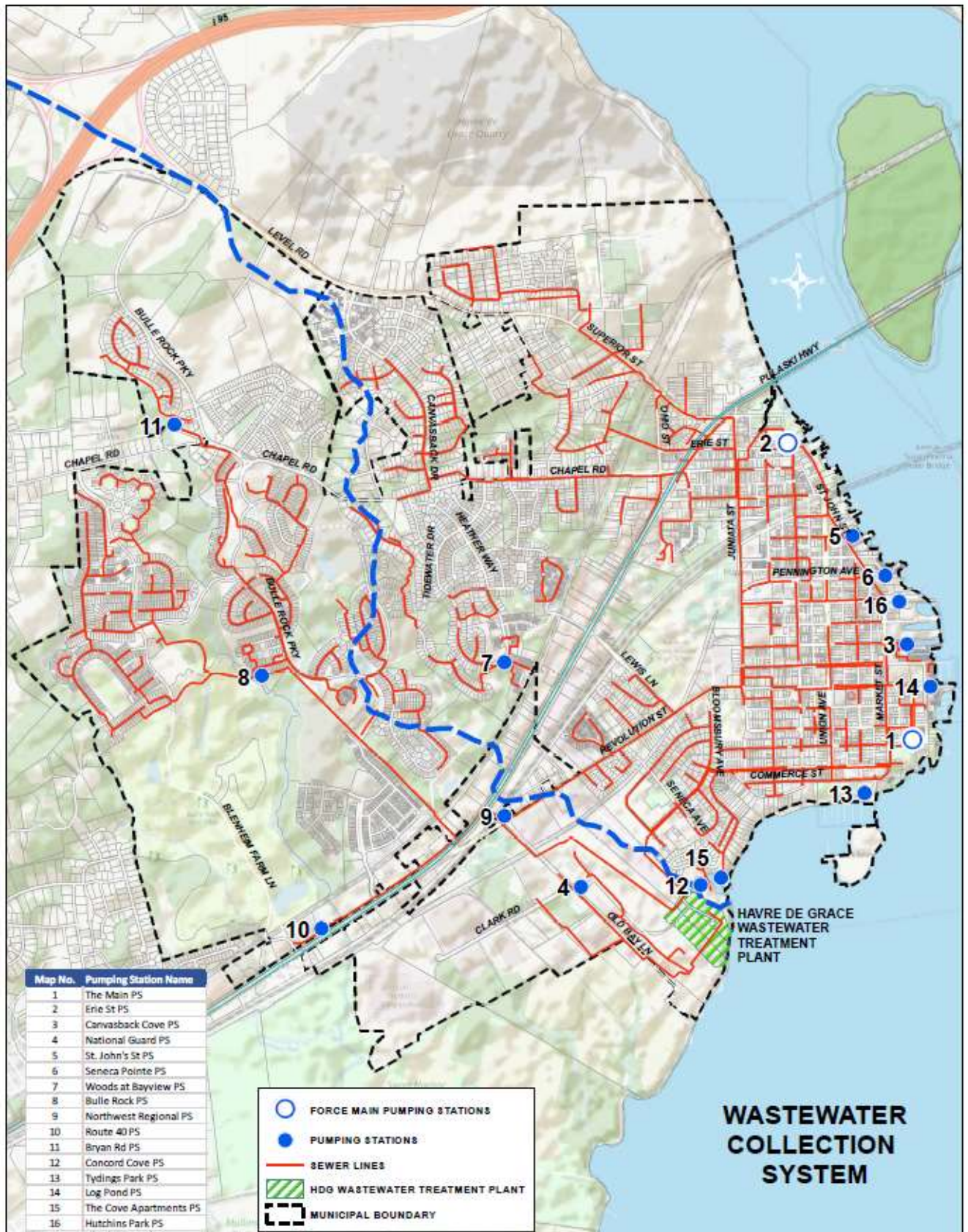
TABLE 2, ESTIMATED WASTEWATER CAPACITY REQUIREMENTS

	<u>Average Day (Gallon/Day)</u>	<u>Subtotals by Area</u>
<u>Current Capacity Usage</u>¹¹	1,702,250	1,702,250
<u>Developing Areas</u>¹²		
Blenheim Run; 111 units and mixed-use commercial	30,450	
Bulle Rock; 569 units remaining, January 2023	142,250	
Green/Ianniello/Patrone annexed properties; estimated 500 units and mixed-use commercial ¹³	190,000	
Greenway Farm; 284 units remaining	71,000	
Lampson Property; 40 units	10,000	
Mixed Office Employment; MOE/I-95 interchange	187,500	
Old Bay Lane; Industrial redevelopment	100,000	
Old Town; Infill estimated at 75 units	18,750	
Tranquility homes; Redevelopment 150 units)	37,500	787,450
<u>Future Growth Areas</u>		
US 40 Section 1; Commercial (66,000 SF)	11,880	
US 40 Section 2; Commercial (38,000 SF)	6,840	18,720
<u>Future Service Areas Based on Need</u>		
Chapel Road; 12 units	Water only; based on future need	
Havre de Grace Heights; 22 units	Water only; based on future need	
Shawnee Brooke; 24 units	Water only; based on future need	
Susquehanna Hills; 95 units	Water only; based on future need	
Total Estimated Wastewater Capacity		2,508,420

¹¹ Based on Wastewater Treatment Plant Capacity Analysis, May 17, 2023, Director of Department of Public Works. Note: WWTP capacity is 3.03 mgd; 3.3 mgd is an error in the May 17, 2023 analysis.

¹² Calculations are based on estimated units known as of July 1, 2023 and coincide with residential estimates from the *Municipal Growth Element: A Strategy for Growth* chapter. Current capacity usage is based on calendar year 2023 due to a dysfunctional effluent flow meter; prior calendar years had incorrect flows (2020, 2021, 2022) A factor of 250 gallons per day per household is being used to estimate usage per unit.

¹³ Estimated 500 equivalent dwelling units used as a factor at 125, 000 gpd with additional 65,000 gpd for commercial mixed-use.



This Wastewater Collection System map is incomplete at this time for some neighborhoods. However, it was important to illustrate the sewer infrastructure in a similar way as the GHD Water System map for future demand areas.

Major capital projects include continued inflow and infiltration reduction, replacement of older sewer lines, and other repairs relating to an aging collection system. Equipment upgrades and/or renewal will be identified and funded through the 10-year capital improvement program as needed to maintain service. Maximizing system efficiency is key for plant operations. In addition, inspection of new infrastructure as it is built is critical to ensure that new wastewater lines are constructed properly for reduced maintenance costs in the future.

From an operational standpoint, the City will continue to support highly-trained, licensed professionals to run the wastewater treatment facility and to retain skilled technicians and field crew. Operator training for ENR and general relicensing is ongoing and required by the State and many of the staff members are highly specialized. In addition to the plant operations, a substantial compost facility is also located on the grounds which transforms solids from the WWTP into compost for soil enhancement. The City maintains its permit for its compost facility, but is not actively providing the product to customers at this time. The City utilizes a third-party handler for fertilizer in the form of sludge for land application.

Actions for Wastewater Collection and Treatment

- Continue to operate state-of-the-art Havre de Grace WWTP ENR facility within the limits of the City's permit to meet Chesapeake Bay Restoration goals.
- Continue to coordinate with Harford County regarding biannual revisions to the Harford County Water and Sewer Master Plan for planning sewer service area extensions and timelines.
- Continue to monitor capacity of the wastewater treatment plant to serve current City demand and future residential and commercial growth.
- Continue to implement inflow and infiltration improvements to the sewer collection system to reduce the amount of surface and groundwater flowing into aging sewer lines, pipe intersections, and manholes.
- Continue to implement equipment upgrades and renewal as needed which will provide efficiency, sustainability, and safety for collection system and plant operations.
- Annually revise 10-year capital improvement program for sewer infrastructure so that needed capital projects continue to be identified and funded in a fiscally responsible manner.
- Continue to rely on the advice of the Havre de Grace Water and Sewer Commission for the annual review of water and sewer rates, fee structure, and 10-year capital improvement program for determining strategic direction of the Fund 9, Water and Sewer Enterprise Fund and establishing and monitoring operational goals and objectives.
- Continue to attract and retain highly-trained licensed professionals to operate the wastewater treatment plant within the regulatory structure of Maryland Department of Environment Water Management Administration and Federal law.
- Continue to operate the compost facility at the wastewater treatment plant to maximum efficiency and provide high-quality compost material for soil enhancement.
- Explore progressive options with public and private landowners for innovative land

applications of treated effluent for irrigation and nutrient offloading.

- Explore the possibility to use gray water from the WWTP to increase capacity of the plant.

Management of Stormwater Runoff

Stormwater management regulations have been in place in Maryland since 1982 and have evolved over time, first to address flooding associated with new development in the early years and now to more closely match natural hydrology for water quality before it meets shared waterways. The goal is still to control the flow of water across properties but also to greatly reduce the amount of sediment, pollution, and nutrients getting into those waterways. A basic, elemental question about the topics covered in this section is “why should we care about stormwater management and nutrient reduction?” To answer that, we have to understand the importance of water quality in relation to human health and clean drinking water sources, a beneficial environment for habitat and wildlife, and the overall health of our planet.

In this section, concepts relating to sediment and erosion control, stormwater management implementation for development and redevelopment, MS4 Phase II and NPDES program implementation will be covered to show the interrelationship of different approaches for improving the quality of our waterways. In addition, an introduction to the topic of the federal-level Total Maximum Daily Loads, or TMDLs, will be initiated as it plays a direct role in the City’s management of stormwater runoff for Chesapeake Bay Restoration. The goal of this section is to define the issues and strategies being used currently at all levels of government – federal, state, and local – and to show the heightened level of concern and attention for addressing the problems facing the region and the Chesapeake Bay.

Control of stormwater runoff is an important function of local government. In developed areas and municipalities like Havre de Grace, runoff comes from paved surfaces like roads, sidewalks, parking lots and buildings such as houses, shopping centers, and industrial complexes during rain and snow events. These are referred to collectively as impervious surfaces. Due to the high density of development, there is little area for rainwater to infiltrate the soil naturally so the water runs off into streams and other tributaries. On a small scale, rainwater builds up velocity on paved surfaces, washing out soil and eroding stream banks, and causes nuisance complaints between neighbors for misdirected downspouts and yard grading. On a large scale, it floods roadways and property, causing damage and threatening public safety. The goal of stormwater management is to successfully limit stormwater runoff as areas develop, to reduce flooding, and to improve water quality so that streams and major waterways are not adversely affected by human-made pollution – such as oil, chemicals, sediment, nitrogen, phosphorous, and trash – carried in the runoff. It is also to have as much water return to the soil, which filters it naturally and replenishes groundwater.

Stormwater management is critically important in maintaining the health of stream systems as land is developed. Related to stormwater management is the concept of nonpoint source nutrient loading which describes the amount of pollutants that come from the impervious surface created by development. As with Havre de Grace, more intensive land uses in towns, cities, and suburban areas have a great degree of impervious surface due to high density of buildings and pavement. The design of stormwater management facilities and the way land is developed can significantly reduce nonpoint source pollutant loading which, in turn, will measurably affect the quality of our waterways. In addition to increased runoff as a result of development, nonpoint source pollutants can also come from: excess fertilizers, herbicides and insecticides from agricultural lands and residential areas; oil, grease and toxic chemicals from urban runoff and energy production; sediment from improperly managed construction; bacteria and nutrients from livestock, pet wastes, and faulty septic systems; and atmospheric deposition

such as emissions from power plants and motor vehicles¹⁴. Nutrient runoff in the form of nitrogen and phosphorous is particularly problematic because it leads to increased algae growth (or algae blooms) which then die and decay, leading to large dead-zones in the Chesapeake Bay due to oxygen depletion.

From an ecological and a human health standpoint, all waterways are important. Our major water resource in Maryland is the Chesapeake Bay; however all the streams, creeks, and rivers leading to the Bay contribute to its overall health and water quality. This system of waterways is defined in terms of its respective watershed, which is the region draining into a river, river system, or other body of water. The Chesapeake Bay watershed includes a 64,000 square mile land mass within six states – Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia and all of Washington, D.C. The cumulative effect of this land mass and its waterways on the Bay is profound.

On a local scale in Havre de Grace, the geographic relationship the City has with the Chesapeake Bay is immediate. The City lies directly on the shores of the northernmost Bay where the Susquehanna River opens up to the Susquehanna Flats and the Chesapeake itself. Portions of the City lie in the Harford County watersheds of the Lower Susquehanna and Swan Creek¹⁵ which drain to the River and upper Bay and are shown on the watershed map included in this chapter. Because of the City's direct relationship to the Bay, Havre de Grace has additional environmental regulations through the State's Chesapeake Bay Critical Area law that modify land use and development immediately adjacent to the Bay.

This section of the Water Resources Element is important for describing the benefit of the various regulations relating to water quality. Though tiny in comparison to the overall watershed at 6 square miles, Havre de Grace must adhere to all water quality programs and regulations. Following this section on stormwater management, the important initiative called the Chesapeake Bay Clean Water Blueprint will be described to show the intense focus at the federal level that is driving the protection and restoration of the Chesapeake Bay.



Images of stormwater management practices along Concord Street

¹⁴ U.S. EPA website for polluted runoff (nonpoint source pollution)

¹⁵ From Maryland 8-digit identified watersheds



Sediment and Erosion Control

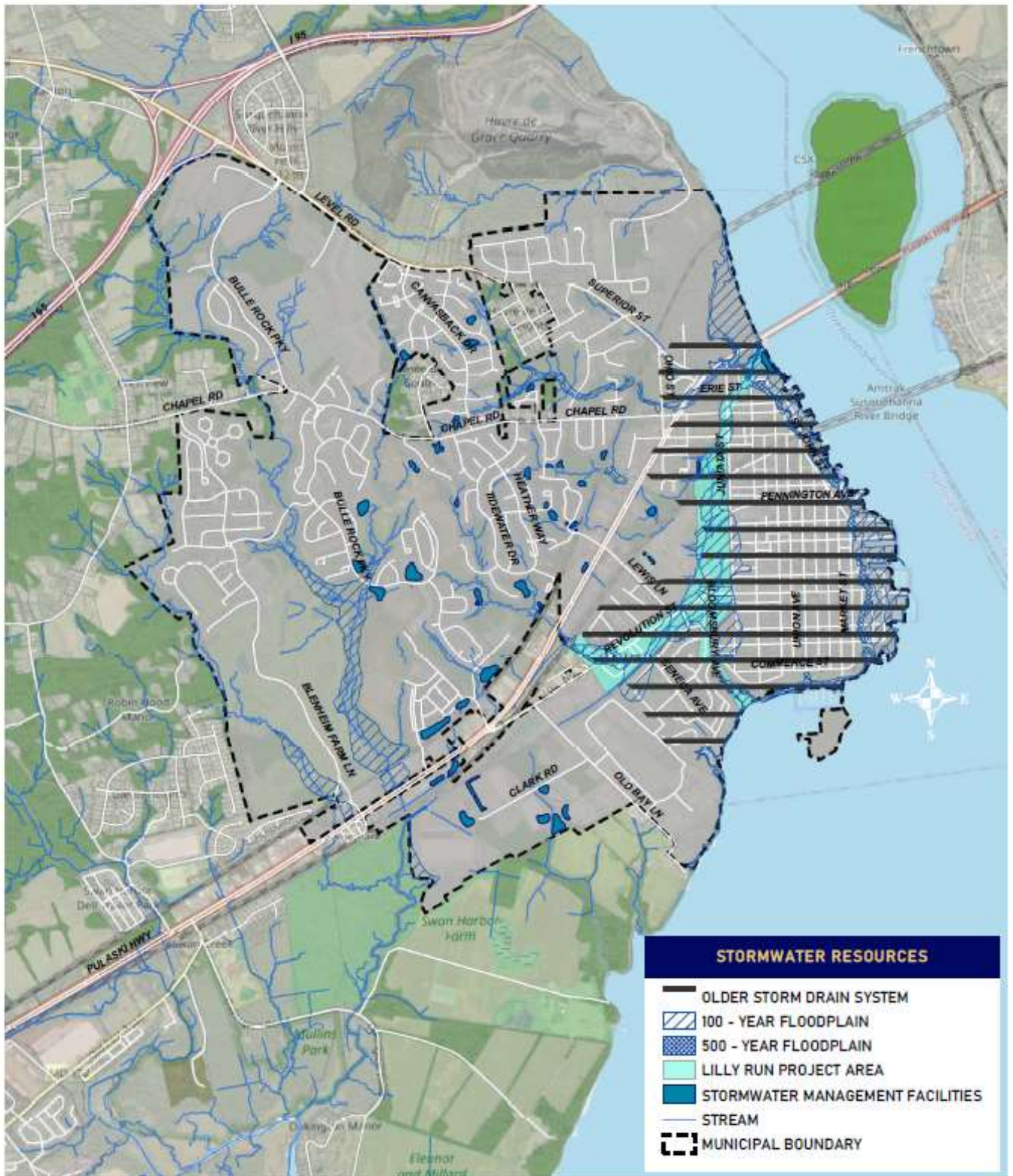
Sediment and erosion control law came into effect statewide in 1970, prior to stormwater management regulations which followed in the early 1980s. The intent of sediment and erosion control is to reduce the amount of soil (and thereby nutrients and sediment) that get into waterways as a result of land disturbance, largely through construction but also from agriculture and other practices. Sediment and erosion control plans are required for land disturbances greater than 5,000 square feet or 100 cubic yards or more, which are reviewed and approved by the local Soil Conservation Districts through the Maryland Department of Agriculture. Upon approval, the City or other local jurisdiction provides a grading permit to respective applicants and provides inspection and enforcement.

The level of sediment and erosion control is dependent upon site characteristics and the amount of land disturbance, with the goal of keeping soil on the site with containment. For instance, simple sediment and erosion control practices may include placement of silt fences to retain soil on a site, temporary swales, or stabilized stone construction entrances to keep soil off of roadways as vehicles leave a construction site. Major projects may require sediment trapping devices such as the construction of sediment basins or significant land grading, such as re-grading the terrain into serrated slopes which are then stabilized with vegetation. Often in cases of land development, sediment basins were later converted to permanent stormwater management facilities to deal with post-development runoff volume.

Stormwater Management Implementation

Stormwater management is a method of controlling the quantity and quality of runoff from precipitation events in more densely developed urban and suburban areas. The State of Maryland has always been progressive in its stormwater management law, developing State regulations and requiring local ordinances for stormwater management due to our direct relationship to Chesapeake Bay waters. These regulations apply during the land development or redevelopment process and when new road improvements are constructed. This issue is forefront in Maryland after decades spent on Chesapeake Bay restoration where it is recognized that land development practices are major contributors to the Bay's degradation. Ultimately, the goal is to change land use practices through improved best management practices to make measureable improvements to the Bay's health and water quality.

To meet stormwater management law, Havre de Grace adopted its first ordinance in 1984 with the stated purpose to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding. New development was required to provide quantitative and qualitative control of stormwater runoff, with plans submitted and approved by the Director of Public Works. Grading and building permits could be suspended for infractions due to lack of progress or failures of stormwater management facilities. Minor amendments relating to fees were added to the original ordinance. In 2002, the City passed Ordinance No. 826 which was based on the State's model ordinance and the 2000 Maryland Stormwater Design Manual, Volumes I & II. This Ordinance superseded prior stormwater management ordinances and revised its program relative to State requirements. Stormwater management facilities were designed to reduce impervious area by 20% of pre-development; provide best management practices that treat water quality for 20% of the existing impervious area; or a combination of impervious area reduction and the area treated by BMPs equal to 20% of the existing impervious area.



Best management practices, or BMPs, are structural devices or nonstructural practices designed to temporarily store and treat stormwater runoff in order to mitigate flooding, reduce pollution, and provide other amenities.¹⁶ They include stormwater management ponds and wetlands, infiltration and sand filter practices, bioretention facilities, open channels, filter strips, and buffers. During the course of new development or redevelopment, stormwater runoff control must be designed and built into the landscape so that the runoff does not affect watercourses and adjacent or downstream properties. This is for both large-scale projects, like new multi-unit housing subdivisions or an industrial park, and smaller projects that have greater than 5,000 square feet of land disturbance.

In 2007, the State of Maryland strengthened its water quality laws through implementation of The Stormwater Management Act of 2007. With these regulations, developers are required to use Environmental Site Design (ESD) wherever practicable to control runoff and pollution from new development and to provide water quality treatment or impervious surface reduction by 50% for redevelopment¹⁷. Havre de Grace adopted the regulations as required by May, 2010.

Currently in Havre de Grace, there are over 160 stormwater best management practices¹⁸ or features for which the City is responsible, either in terms of inspection and maintenance enforcement or in some cases direct ownership. These facilities include ponds, open swales, underground filtration systems, and outfall filters to name a few and all require regular maintenance and are inspected every 2 years by trained DPW staff. DPW staff members also oversee initial design, facility construction, and any sediment and erosion control conversion to stormwater facilities. Stormwater regulation require a 3-phase design review to include concept, site development, and final plans.

Stormwater management is one aspect of environmental regulation that is considered in land development. Additional but related regulations exist for sediment and erosion control, development within a floodplain, and the Chesapeake Bay Critical Area Law. These laws are separate but related regulatory measures that interplay during the design and construction phases of development and redevelopment.

MS4 Phase II and NPDES Program Implementation

Federal law administered through the Environmental Protection Agency (EPA) directs State action for limiting pollution sources in waterways, from either nonpoint or point sources. The Federal Clean Water Act was passed in 1972 to restore waters of the United States to fishable or swimmable conditions. Originally, it regulated point source discharges such as municipal and industrial wastewater discharges through the National Pollutant Discharge Elimination System, or NPDES, permit requirements.

In 1987, Congress broadened the definition of point source to include industrial stormwater discharges and municipal separate storm sewer systems, shortened to MS4, which were divided into Phase I and Phase II for implementation. The City of Havre de Grace falls under Phase II requirements because of its small size (population less than 100,000), the rules of which came into effect in 2003. The City is required to participate in a 5-year NPDES permit as a point source for its storm drain system as well as its stormwater management program which outlines a plan of action for reducing its contribution to pollutant loading in local waterways. Havre de Grace is covered under a general permit with over 50 other jurisdictions – towns, cities, and counties – of similar size within the State of Maryland. In addition, it has

¹⁶ Maryland Model Stormwater Management Ordinance, June 2009

¹⁷ Maryland Department of the Environment Press Release, October 17, 2008

¹⁸ Actual number of physical feature BMPs is 167 as of July 1, 2023 reporting with an additional 58 coming online due to new development and redevelopment. This will provide a total of 225 BMPs for inspection reporting within the next 3 to 5 years.

its own permit.

The general permit for Phase II jurisdictions requires that each jurisdiction has a program in place to provide minimum control measures, or MCMs. The six minimum control measures include the following and are described in the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, which became effective October 31, 2018:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management, and
6. Pollution Prevention and Good Housekeeping

To comply with these requirements, Havre de Grace has a program in place to meet each of the 6 requirements through DPW. Measures such as the City's intense street sweeping program, consistent oversight for stormwater management construction and maintenance, and sediment and erosion control enforcement are just a few of the major initiatives that the City performs to meet the requirements of the permit. Like stormwater management, this program is administered through DPW.

For the purposes of NPDES, Havre de Grace is considered a point source for its storm drain collection system and series of stormwater management facilities. Point sources are individual sewage treatment plants, industrial wastewater systems, and urban and suburban stormwater systems. As covered in the wastewater collection and treatment system section of this chapter, the City also holds a separate permit for its point source pollutant discharge for the Havre de Grace Wastewater Treatment Plant. This permit caps, or limits, the amount of nutrient loading discharged directly into the Chesapeake Bay from that plant. Industrial discharge permits are required from separate industries located in City, such as Evonik Corporation located on Revolution and Juniata Streets.

With regard to stormwater management and water quality for receiving waters, Havre de Grace has been aggressive in the pursuit and construction of projects to meet requirements under its MS4 Phase II permit¹⁹. For the past 5 years, the City has been constructing water quality projects in the older section of town by removing direct outfalls into the Susquehanna and Chesapeake Bay and creating systems for runoff treatment, oftentimes through step-pool systems on publicly-owned land along the waterfront. These projects are all part of meeting the 5-year NPDES permit which outlines Chesapeake Bay Restoration efforts to meet pollution benchmarks called Total Maximum Daily Loads, or TMDLs, where the City and all Phase II jurisdictions are required to meet 20% pollution reduction in areas not treated by stormwater management practices by 2025.

To show progress, the permit outlines stringent reporting requirements for individual communities to describe how they are to meet their 20% nutrient reduction goals with practices that are measurable. The areas affected within city-limits are those of the older areas of the City that predated stormwater management practices, where stormwater was gathered in a storm drain system with direct outfall to waterways, like the Lilly Run stream system, the Susquehanna River, and the Chesapeake Bay. At the first year of the permit, the City's baseline for untreated impervious surface was established at 771 acres requiring a pollution reduction of 20% or 154 acres within the permit 5-year term. As of June 2023

¹⁹ MS4 Phase II permits are related to the National Pollutant Discharge Elimination System (NPDES) requirements for stormwater management through the federal government's Environmental Protection Agency for small municipalities.

reporting, the City's DPW has achieved 220 acres of impervious surface treatment, exceeding the 20% reduction. This has been done through several shoreline projects with regenerative stormwater conveyance treatment systems that provide water quality before the runoff goes into waterways. This is all part of the Chesapeake Clean Water Blueprint which will be described in the next section of this chapter as well as a following section on shoreline projects.

Actions for Management of Stormwater Runoff

- Administer and enforce stormwater management regulations as per the Stormwater Act of 2007, which ensures environmental site design (ESD) to the maximum extent practicable (MEP) in new development projects and 50% impervious surface reduction or the equivalent for redevelopment. Updates to stormwater management requirements were adopted through Ordinance No. 912 Stormwater Management passed in May, 2010.
- Review stormwater management plans at the concept, site plan, and final plan phase of design to ensure adequate retention of stormwater runoff from new development and redevelopment projects, as required through the stormwater management ordinance.
- Continue to inspect stormwater facilities or the construction of on-site environmental site design applications as they are built during the development process as required by law.
- Continue to inspect existing stormwater management facilities on a biennial schedule to ensure that they are maintained and functioning properly, with necessary reporting as required by MDE on an annual basis.
- Develop a formalized internal development review process in which all departments review development plans for regulatory, zoning, stormwater management, facility, and infrastructure sufficiency to be applied to all new development and redevelopment projects, regardless of scale.
- Continue to work with Harford County Soil Conservation District to review and approve sediment and erosion control plans prior to site grading in construction projects within the City, as required. Projects include all new development and redevelopment as well as City infrastructure improvements which exceed 5000 square feet or 100 cubic yards of soil disturbance.
- Continue to utilize MDE for enforcement to ensure that sediment and erosion control devices are properly installed and maintained during the development process.
- Continue to implement NPDES MS4 Phase II requirements to be performed by the City's DPW staff and as outlined in the General Discharge Permit which went into effect October 31, 2018.
- Continue to participate in the development of inter-jurisdictional watershed management plans for nutrient reduction to meet the City's TMDL requirements as part of the Chesapeake Clean Water Blueprint.
- Continue to Identify and administer water quality mitigation projects to meet anticipated nutrient reduction requirements, specifically in regard to the direct storm drain discharge outfalls in the older portion of the City.

- Implement the *Lilly Run Improvement Plan* for flood relief/flood control in the interior portions of the City for the purposes of public safety and emergency access; protection of public and private property from damage; expedited floodwater exit; water containment; and environmental enhancement.
- Implement the priorities identified in the Havre de Grace Continuity of Operations Plan (COOP) of 2009 for disaster planning, to include flood emergencies.
- Continue to administer and enforce Chesapeake Bay Critical Area regulations on shoreline parcels and land areas within 1,000 feet of mean high water which has a specific requirement called the 10% Rule for stormwater management in the Critical Area for protection of Chesapeake Bay water quality.
- Align existing City development regulations, such as zoning, parking requirements, road code, etc., with stormwater management regulations to reduce the impervious surface runoff of future development.

Chesapeake Clean Water Blueprint

The Chesapeake Clean Water Blueprint is a framework of accountability for Chesapeake Bay water quality restoration that is both at the interstate level – with the 6 Bay States and Washington, D. C. – and effecting jurisdictions at the local level such as Havre de Grace. It started from a settlement of a lawsuit against EPA by the Chesapeake Bay Foundation and other plaintiffs to enforce Bay Restoration efforts in 2010. A Chesapeake Bay Total Maximum Daily Load, or TMDL, was developed to create science-based enforceable limits on the amount of pollution entering the Bay, a pollution diet to restore the Chesapeake by 2025.

As part of the settlement, the 6 States and District of Columbia agreed to develop individual plans and milestones to show and account for incremental, measurable improvements to the Bay's health. These Statewide Watershed Implementation Plans, or WIPs, outline how each state is progressing with their respective requirements to meet the Chesapeake Bay TMDL – i.e. showing how they will get there – and each state apportions their own division of the TMDL to local jurisdictions. Through this complicated process, Havre de Grace is part of Harford County's WIP, which is entitled *Harford County Chesapeake Bay Total Maximum Daily Load Restoration Plan for Nitrogen, Phosphorous, and Sediment*.

Within each state and county WIP, 2-year milestones are created showing the path to reach the required nutrient load reduction related to nitrogen, phosphorous, and sediment pollution by 2025. Maryland is on-track to meet its overall 2025 pollution reduction commitments, specifically due to aggressive efforts for nutrient reduction in wastewater treatment plants. According to the Chesapeake Bay Foundation's website:

Maryland remains on track to meet its overall 2025 pollution-reduction commitments. However, there are red flags. The state's progress relies heavily on technology upgrades at wastewater treatment plants, but operational failures at two of the largest plants jeopardize its gains. Moreover, this one sector alone cannot sustain progress over the long term. Agricultural pollution is declining as more conservation practices are placed on farms, though not fast enough to meet the state's commitments. And polluted runoff from urban and suburban areas is growing. Maryland must broaden its pollution-reduction strategy to manage these sources, blunt the effects of climate change, and ensure all communities benefit from

investments in clean water.

Havre de Grace has been aggressive in meeting its set goals for its proportion of the TMDL. As a small jurisdiction of only 6 square miles, its nutrient targets are small comparatively. As described in the prior section, the City has been aggressive in meeting and exceeding its 20% pollution reduction goal. This is determined by treatment of 20% impervious surfaces which equates directly to measurable nitrogen, phosphorous, and sediment reduction. As discussed in the earlier section of this chapter, the City's wastewater treatment plant consistently operates within its permitted nutrient requirements. All of these focused activities assist in making measurable improvements to the health of the Chesapeake Bay.

One last aspect of this that is immediately relevant to Havre de Grace is its proximity to the Conowingo Dam which has an enormous impact to the Upper Bay receiving waters for nutrient pollution, sedimentation, and its impacts to navigation and in-water habitat. This is only mentioned here due to a separate initiative called the Conowingo Watershed Implementation Plan, or CWIP, which will have lasting effects for Bay-wide nutrient reduction. For ongoing information on the CWIP effort, information is available on the EPA's Chesapeake Bay Program website at:

www.chesapeakebay.net/who/group/conowingo-watershed-implementation-plan-steering-committee.



Satellite image of the Chesapeake Bay. Base photo by Landsat/NASA

Actions for Chesapeake Clean Water Blueprint

- Continue to aggressively pursue meeting and exceeding pollution reduction goals through projects that provide water quality improvements at the outfall where water is treated through designed filtration systems prior to nutrients and pollution getting into waterways.
- Continue to support staff within DPW who do this work of reporting, grant-writing, administration, and procurement through design and construction of these green

infrastructure facilities.

- Continue to aggressively pursue grants as provided through many state and federal agencies to meet ongoing TMDL efforts. A list of grant funding sources is provided in the *Sensitive Areas: Environmental Resource Protection* which immediately follows this chapter.

Shoreline Projects for Water Quality and Coastal Resiliency

As part of the local answer to meet TMDL requirements, the City has aggressively pursued water quality projects along the extensive shoreline. These projects work to meet both NPDES 20% pollution reduction requirements as well as local WIP 2-year milestone targets while ideally offering a measure of coastal resiliency in both the riverine and coastal conditions. Often, these shoreline projects have regenerative step-pool conveyances, a type of best management practice, that assist in water quality improvements from the urban storm drain system. Photos from 3 of these systems are included on the map for this section showing Chesapeake Bay restoration projects.

Each of these systems is designed to provide quantifiable nutrient reduction based on the acreage of the sub-watershed that it receives. The sub-watershed is the runoff area that a storm drain system picks up before it ends in an outfall where these facilities are located to filter the surface runoff water; this is before it reaches a stream, the Susquehanna River, or the Chesapeake Bay directly. The City has performed a total of 8 of these projects to date, some of which are connected projects that are done in multiple phases, like at Concord Point Park which was done in 3 phases, each its own project for engineered nutrient reduction.

Each of these individual projects takes tremendous effort on the part of DPW staff for grant-writing, design, waterway permitting, construction, and maintenance. It is through their work that major portions of the historic City now have stormwater water quality treatment located on public lands, also providing habitat and recreational amenities. These projects have changed the face of the City's shoreline, making dynamic public spaces that beautifully and creatively treat stormwater runoff where the land and Chesapeake Bay intersect.

“Preservation of our waterfront for public use and protection of our waterfront from the impacts of climate change.” (In answer to most pressing concern related to water resources)

-- Comprehensive Plan 2022 StoryMap Response



WATER STREET



BRADFORD GREEN



CONCORD SWM RETROFIT



CONCORD POINT



Actions for Shoreline Projects

- Aggressively pursue grants as provided through many state and federal agencies to continue efforts for living shoreline projects where they are feasible and cost effective.
- Continue to repair and maintain completed living shoreline projects as their native plant material gets established. This includes ongoing invasive and non-invasive weed eradication in order to allow beneficial natives to flourish, ideally creating a layer of coastal resiliency. At times, the sand and rock base may also need to be repair due to wave action, swift water currents, and erosion.
- Monitor living shoreline projects and step-pool conveyance systems pre- and post-storm events, including events when the Conowingo Dam is opened, to document impacts and best practices for enhancing shoreline resilience to those impacts.
- For any shoreline work – whether gray or green in nature – consider impacts to existing natural resources and integrate adaptive management approaches.

Coastal and Urban Flooding

As a coastal city, Havre de Grace is subject to significant flooding. Many factors contribute to this – an extensive shoreline, exposure to extreme weather from easterly and southerly directions, many substantial tributaries, ditches, and waterways in the coastal plain, increased development, and Conowingo Dam, a major hydro-electric dam 8 miles up-river which at times releases great volumes of water requiring notification to downstream communities. Major flooding has happened along the shoreline as with Hurricane Isabel in 2003 storm surge or interior to the City due to heavy rain event such as with Hurricane Floyd in 1999 or other unnamed high-rain events. Historically, other flood events included Hurricane Agnes in 1972, which left Maryland devastated and the submerged aquatic vegetation (SAVs) in the Susquehanna Flats decimated. In a worst-case scenario, a tidal surge and flood rains could occur in a single event where a major section of old town becomes cutoff and residents on the waterfront forced to leave homes without emergency evacuation options.

Because of the recurring threat to public safety and property, the City has undertaken a series of studies to identify specific measures to reduce the impacts of flooding and provide for emergency

access to the older portions of town. The focus of the study has been on the interior portions of the City which are part of the floodplain associated with Lilly Run and its tributaries. Historic changes to topography through massive re-grading for transportation systems (such as the Amtrak, formerly Pennsylvania Railroad), altered watercourses, channelization, undersized culverts, and new development all contribute to the interior flooding problem in severe rain events. The City's geography relative to the fall line (which demarcates coastal and higher piedmont regions) and the topography of its contributing watershed are factors in the severe flood recurrence. Engineering studies to alleviate flooding date as far back as 1966 specifically for Lilly Run interior flooding, but it was a documented problem well before then. A comprehensive study was performed by URS Corporation in 2007, identifying system-wide priorities and providing cost estimates for improvements.

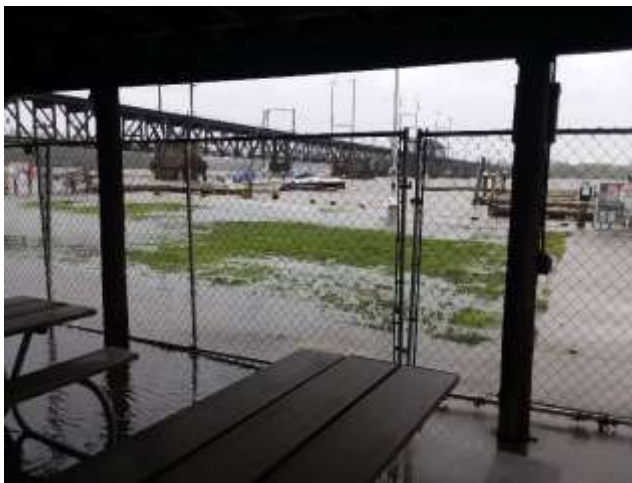
CITY WEBSITE FOR FLOODPLAIN MANAGEMENT:
<https://havredegracemd.gov/departments/planning-and-zoning/floodplain-management-2/>

The City experiences flooding in two ways. One way is coastal flooding through extreme tides and

hurricane storm surges and secondly through interior flooding in long-duration rain events, most often related to the Lilly Run stream system. It is possible that these events can occur together, compounding the danger and isolation of the Old Town area by eliminating road access. Coastal flooding at its worst resulted in the destruction of the City's Promenade in 2003 with Hurricane Isabel, but more recent coastal high-water events unrelated to extreme weather seem to be on the rise, with three during the COVID-19 shutdown in spring, 2020.



Photos from April 13, 2020 high-water event, coastal flooding and reverse flow in storm drain system.



Photos from April 30, 2020 high-water event, coastal flooding and reverse flow in storm drain system.

Interior flooding occurs with long-duration storm events that overwhelm the human-made water conveyance systems of the Lilly Run drainage area. Flooding events of various magnitude occur there about every five years with the most recent being Tropical Storm Isaias on August 4, 2020. Flood improvement plans for Lilly Run are ongoing, and it is important to address all segments of Lilly Run which require different solutions depending on location within the system. As identified in the URS Lilly Run Improvement Plan²⁰, projects include instream channel improvements, a diversion connecting water volume back to the location of the natural stream path, and lowering streets to relieve extreme ponding specifically along Juniata Street, to name a few. The goal in a flood condition is to get the water out of the interior of the City as fast as possible for human safety and to reduce property damage.

²⁰ Lilly Run Improvement Plan, Prepared for the City of Havre de Grace by URS Corporation, May 9, 2007



Extreme ponding of flood waters in Juniata Street, Tropical Storm Isaias, August 4, 2020.



Overwhelmed Lilly Run culvert outfall at North Park and Erie Street intersection, July 12, 2004 flood event.



Flooding the banks of Huber Corporation, now Evonik, September 11, 2009 rain event.

Any new development or structures within a floodplain are required to meet additional construction standards to withstand flood events. Such requirements include the elimination of living/occupied space, plumbing fixtures, and mechanical/electrical fixtures (as measured to specific heights above mean high water) and installation of breakaway panels and flood vents for

Recent Flooding Events

Hurricane Floyd (September 1999)

Unnamed storm (July 2004)

Rain event (September 2009)

Unnamed storm flash flood (October 2010)

Tropical Storm Isaias (August 2020)

enclosures in the flood areas. All structures within a floodplain also require MDE approval, including fences and sheds.

In 2006, the City applied for the voluntary Community Rating System (CRS) for reduced flood insurance premiums for residents of flood-prone properties. First certified in 2009 with a Class 9 rating, staff members are continuing to reduce flood insurance rates through a points/percentage system through FEMA and the Insurance Service Office, Inc. (ISO). Currently, the City has a rating of 7 due to the diligent efforts of the City's Floodplain Manager. Each decrease in rating steps results in a five percent reduction in flood insurance rates for policyholders in the community. Please see identified floodplain on authoritative FEMA (Federal Emergency Management Agency) maps for locating affected properties within the floodplain. The City also outlines alternative emergency operations in its Havre de Grace Continuity of Operations Plan (COOP) for disaster planning, to include flood emergencies.

Actions for Coastal and Urban Flooding

- Implement Lilly Run project studies that have been completed, specifically the most recent Lilly Run Improvement Plan by URS in 2007 as well as design projects that address interior flooding from the Lilly Run stream system.
- Continue to administer and improve on the voluntary Community Rating System (CRS) for reduced flood insurance premiums for residents in the floodplain.
- Continue to support staff certified in floodplain management as they are a key contributor to public safety and education about the City's significant flooding issues, whether from coastal, riverine, or interior stream-system related flooding. Havre de Grace faces unique threats with regard to flooding.
- As a coastal City, continue to update and administer required construction standards for all new buildings in the floodplain.
- Continue to educate the public about flood-prone areas within the City and floodplain management as related to improvements to private property.
- Consider proactively adopting standards for greater protection within flood prone areas, such as regulating 2% flood areas (as opposed to current 1% as required) and adopting higher freeboard requirements. Current standard is 2 feet above base flood elevation, as required; the City could adopt a 3-foot standard.

Sea Level Rise and Climate Change Impacts

Harford County in conjunction with APG-CSSC Joint Land Use Study Committee²¹ contracted a study of the Upper Bay called *Planning for Coastal Resiliency in the Northern Chesapeake Bay*, which was prepared by EA Engineering, Science, and Technology, Inc. in 2019. It was an intensive study of sea level rise (SLR) scenarios for the Upper Bay and includes the coastal lands of Aberdeen Proving Ground and Harford, Cecil, and Kent Counties. The City is lucky to have such an in-depth examination of various SLR scenarios

²¹ Aberdeen Proving Ground-Chesapeake Science and Security Corridor is part of Harford County Office of Economic Development. The study was performed with financial support from the Office of Economic Adjustment, Department of Defense, February 2019.

for planning purposes. Though the focus was on federal APG and its assets, many of which are located in low lying areas of former Harford County, the adjoining communities get the benefit of the asset mapping, whether they be cultural or infrastructure, and future areas of inundation.

The study takes into account 4 SLR scenarios, 2 of which are the same (scenarios 2 and 3). These are:

1. 2050 mid-level scenario with 1.2 feet of water level increase
2. 2050 high-level scenario with 2.3 feet of water level increase
3. 2100 mid-level scenario with 2.3 feet of water level increase
4. 2100 high-level scenario with 6.9 feet of water level increase

Included here are slides from the study showing areas of impact for Havre de Grace. Specific focus on the cultural resources was placed on county and municipal assets in the maps not infrastructure, but great information can be extrapolated from the inundation scenarios for the City's own planning purposes. For the full study: <https://apg-chesapeakejrus.com/157/Susquehanna-River-Impact-Accretion-Study>.

Assets that are listed in the study are cultural resources, like the Concord Point Lighthouse and Keeper's House, the Lock House Museum with the Susquehanna & Tidewater Canal remnants, or some privately-owned structures like those at Havre de Grace Marina located on Water Street. However, City-owned pumping stations, both the major ones at Erie Street and Lafayette Street and the smaller ones serving waterfront residential areas, need to be evaluated for SLR vulnerability.

RESOURCES FOR CLIMATE CHANGE

NOAA Sea Level Rise Viewer: <https://coast.noaa.gov/slr/>

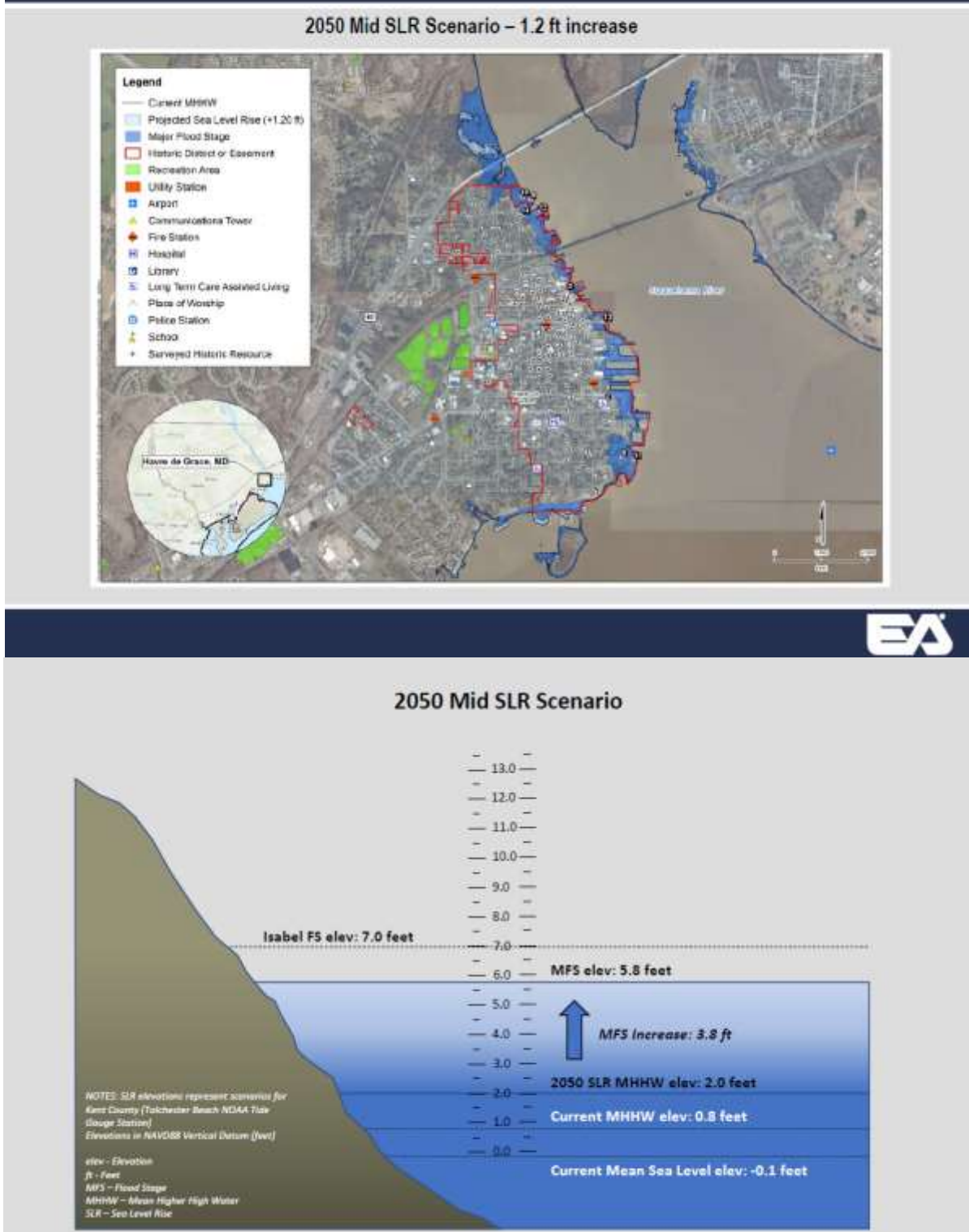
Report: Sea-Level Rise Projections for Maryland 2023,
University of Maryland Center for Environmental Science
<https://www.umces.edu/sea-level-rise-projections>

Maryland Coastal Atlas:
<https://dnr.geodata.md.gov/CoastalAtlas/>



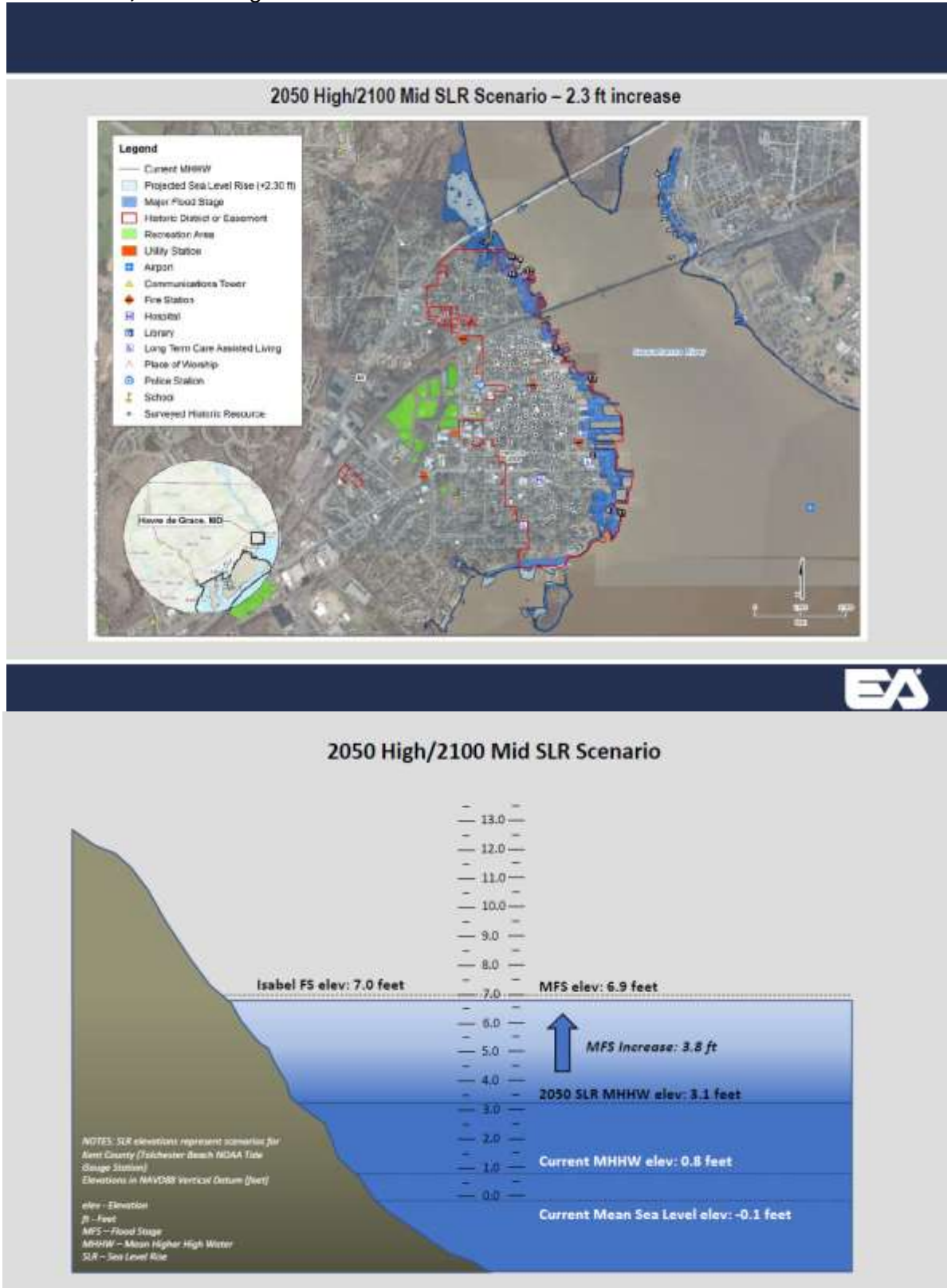
Images from a series of coastal high water events, April 13 and April 30, 2020.

Scenario 1: 2050 mid-level scenario with 1.2 feet of water level increase²²



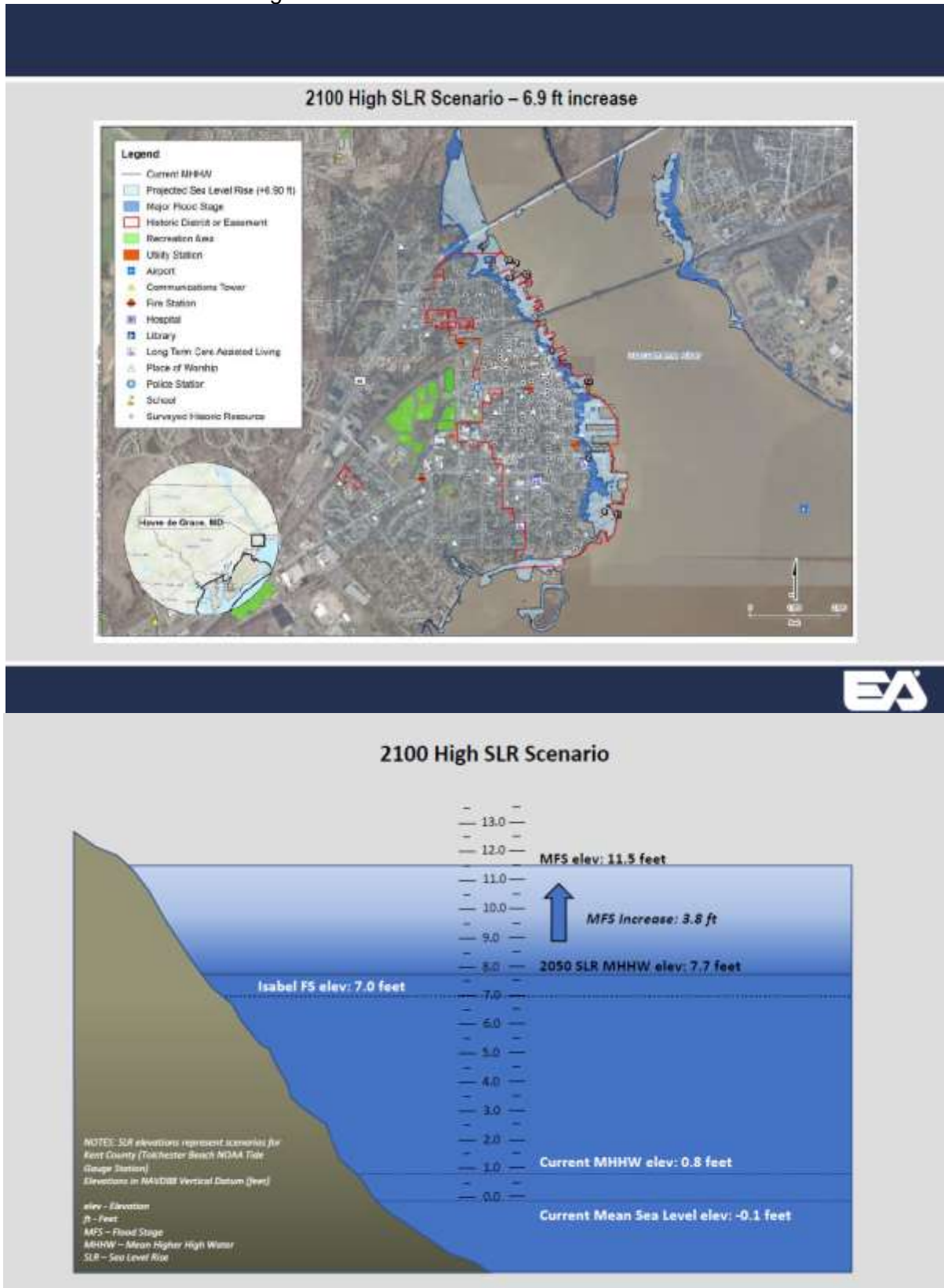
²² From Planning for Coastal Resilience in the Northern Chesapeake Bay presentation, slide #17. 2050 mid-level sea level rise scenario from the APG-CSSC Joint Land Use Study website.

Scenarios 2, 3: 2050 high-level/ 2100 mid-level scenario with 2.3 feet of water level increase²³



²³ From Planning for Coastal Resilience in the Northern Chesapeake Bay presentation, slide #18. 2050 high-level/ 2100 mid-level water sea level rise scenario from the APG-CSSC Joint Land Use Study website.

Scenario 4: 2100 high-level scenario with 6.9 feet of water level increase²⁴



²⁴ From Planning for Coastal Resilience in the Northern Chesapeake Bay presentation, slide #19. 2100 high-level water sea level rise scenario from the APG-CSSC Joint Land Use Study website.

Actions for Sea Level Rise and Climate Change Impacts

- Evaluate City infrastructure, specifically its sewer collection system pumping stations located in the floodplain areas (specifically, the 2 major pumping stations located at Erie and Lafayette Streets), for their vulnerability to various scenarios of sea level rise. All smaller neighborhood pumping stations need to be evaluated as well to ensure that they can withstand extreme high water events as these events increase with climate change.
- Consider land use policies that limit additional development in flood-prone areas, especially in the riverine and coastal waterfront areas.
- Educate the public about the anticipated threats as a coastal City.

List of Technical Resources

The City maintains technical documentation for City services relating to water supply, wastewater treatment, stormwater management and non-point source program implementation. The following is a list of major sources of information for the development of this chapter and other supporting documentation for further inquiry. Please contact the City of Havre de Grace Department of Planning or Department of Public Works, Harford County Department of Public Works Water and Sewer Division, the Maryland Department of the Environment or other agencies for more specific information regarding Havre de Grace described in this chapter.

City of Havre de Grace Water System Hydraulic Model Update; Study performed by engineering consultant, GHD, for outlining necessary improvements for the water system in relation to bulk sale of finished water to the City of Aberdeen and new development near I-95/MD 155 interchange, January 2021. Additional studies are required for refinement and identification of phasing infrastructure improvements in relation to pressure zones for water distribution. GHD studies were performed for water distribution system beginning in 2014.

Water Supply Capacity Management Plans – required yearly by Maryland Department of the Environment Water Management Administration to show available capacity of water treatment plant to serve current and future planned needs for public water supply.

Water Allocation Permit: HA 71S004 for Havre de Grace Water Treatment Plan. Intake point: Susquehanna River. Water Allocation Permit administered through the Maryland Department of the Environment Water Management Administration.

Annual Drinking Water Quality Reports: PWSID #0120012 (Public Water Source Identification Number) required annually by Federal Environmental Protection Agency for potential contaminant levels, source of contaminants, turbidity, and treatment techniques.

Wastewater Capacity Management Plans – required yearly by Maryland Department of the Environment Water Management Administration to show available capacity of wastewater treatment plant to serve current and future planned needs for wastewater disposal.

Wastewater Discharge Permits: NPDES Discharge Permit number for Havre de Grace Wastewater Treatment Plant: MD0021750, State Discharge Permit number: 18-DP-0673. Discharge point: Chesapeake Bay. NPDES; National Pollutant Discharge Elimination System administered through Maryland Department of the Environment.

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, NPDES (Phase II): General Discharge Permit Number: 13-IM-5500, General NPDES Number: MDR055500. This is a General Permit for Small Municipal Separate Storm Sewer Systems in the State of Maryland and had a final determination date of April 27, 2018, an effective date of October 31, 2018, and an expiration date of October 30, 2023.

Harford County Chesapeake Bay Total Maximum Daily Load Restoration Plan for Nitrogen, Phosphorous, and Sediment; Prepared for Harford County Government, URS Corporation, March 2016. The City of Havre de Grace is one of 11 permittees within this document.

Harford County Water and Sewer Master Plans. Formally adopted by Harford County Council in the spring and fall of each year, it includes all project information for water and sewer planning for Harford County as well as the municipalities of Havre de Grace, Aberdeen, and Bel Air.

Planning for Coastal Resiliency in the Northern Chesapeake Bay, Volumes 1 and 2; EA Engineering, Science, and Technology, Inc. as prepared for Harford County and APG-CSSC Joint Land Use Study Committee, Office of Community & Economic Development, February 2019.

Ordinance No. 912, Stormwater Management (Chapter 169, General Code eCode360, City of Havre de Grace, MD); adopted in May 2010; formerly Ordinance No.826 Stormwater Management from March 2002.

Ordinance No. 1027, Subdivision of Land (Chapter 173, General Code eCode360, City of Havre de Grace, MD); most recently updated in March 2020.

Ordinance No. 1045, Site Plan Approval (Chapter 155, General Code eCode360, City of Havre de Grace, MD); most recently updated December 2020.

Ordinance No. 896, Establishment of Water and Sewer Commission (Chapter 25, General Code eCode360, City of Havre de Grace); adopted June 2008.

9. SENSITIVE AREAS: ENVIRONMENTAL RESOURCE PROTECTION

INTRODUCTION

Uniquely positioned at the point where the Susquehanna River becomes the Chesapeake Bay, Havre de Grace has many qualities within its environment that make it stand out. Distinctive landforms include the Atlantic Coastal Plain along its eastern portion, the Piedmont plateau of its western side, and the steep riverine wall of the Susquehanna River Valley to the north, making a range of rich cultural and environmental landscapes and sensitive areas. These characteristics have shaped the history of the region and still affect the City today. This chapter identifies areas to be protected, planned, and in some cases preserved in accordance with the State of Maryland. It sets forth goals, objectives, and policies to address sensitive areas from the adverse effects of development while continually planning for future growth and opportunity that capitalizes on natural environmental features that are assets to the community.

Much of the City's environmental regulations, such as stream buffers, floodplain, wetlands, and forest conservation requirements, are mandated by the State of Maryland. For development projects, environmental impacts to these items are addressed at the subdivision and site plan review stages for individual properties. In addition to these regulations, the City's location adjacent to the Chesapeake Bay requires a heightened level of environmental oversight. The City adopted the Chesapeake Bay Critical Area (CBCA) Program in 1988, and periodically reviews its program under the auspices of the CBCA Commission staff. The program is tailored to the historical development patterns of Havre de Grace, and it serves to regulate land uses and development practices immediately adjacent to the tidal waterways of the Susquehanna River and Chesapeake Bay.

State agencies that oversee environmental regulations are the Maryland Department of the Environment (MDE) and the Department of Natural Resources (DNR). These agencies assist with local ordinance review and interpretation and, in some cases, carry out enforcement actions for environmental infractions. MDE enforces 100-year floodplain compliance and is responsible for issues related to stormwater management, shoreline, and tidal and non-tidal wetlands. Offices within DNR address streams and their buffers, forest conservation, habitats of threatened and endangered species, steep slope protection, and individual jurisdictions' Chesapeake Bay Critical Area programs. Recommendations for this chapter are geared toward strengthening the City's local ordinances to address sensitive areas and environmental resources and to clarify the role of State agencies in the City's development review process.

VISION: To protect profound, shared natural resources while at the same time advancing Smart Growth policies that allow compact development in areas where infrastructure already exists.

SENSITIVE AREAS IN NEED OF PROTECTION

AREAS OF PROTECTION:

This section outlines environmental considerations that currently exist within the community and are required to be included as part of the Sensitive Areas Element under the Land Use Article and Sensitive Areas Element guidance documents¹. These sensitive area features make Havre de Grace a wonderful coastal community and are of primary consideration when development is occurring. These areas of protections create a unique sense of place within the City for people to live, work, and explore.

- Streams and their buffers
- 100-year floodplain
- Habitat areas

¹ Managing Maryland's Growth: Models and Guidelines: Preparing a Sensitive Areas Element for the Comprehensive Plan and Sensitive Areas, Volume II

- Steep slopes
- Tidal and nontidal wetlands
- Forest conservation
- Landscape conservation
- Chesapeake Bay Critical Area
- Eroding shorelines

In addition to these environmental areas, the City voluntarily participates in the National Flood Insurance Program (NFIP), Community Rating System (CRS) and coastal resiliency efforts to resist, adapt to, respond to, and recover from natural hazards and environmental threats while protecting vulnerable resources and sensitive areas. This chapter works in concert with the *Water Resources Element* chapter to address the protection of natural resources.

"[Protect] Tree canopy over the entire City for enhancing the context of our historic City. [I] Love North Park and want to keep it a low-key but beautiful attraction."

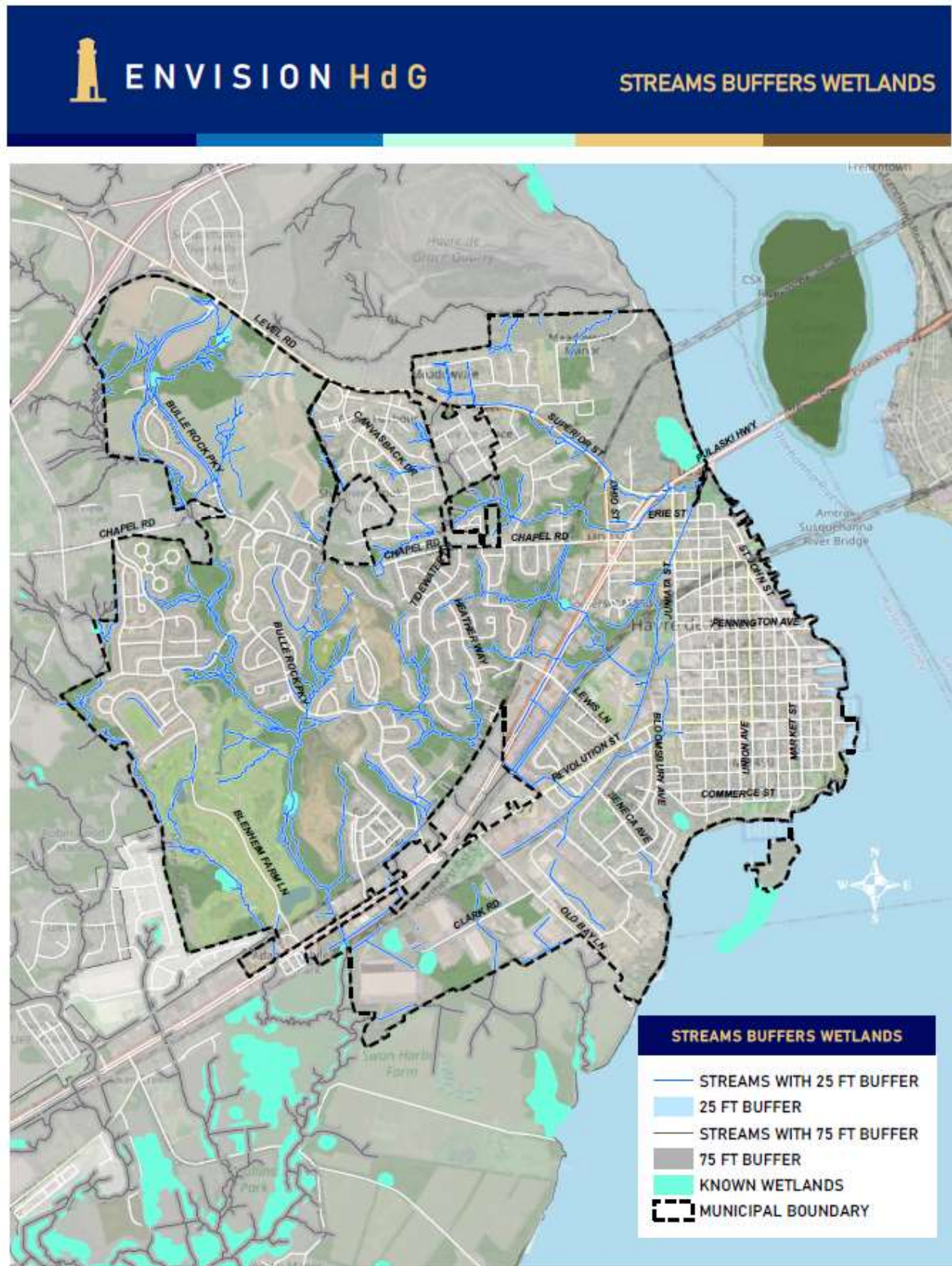
-- Comprehensive Plan 2022 StoryMap Survey Response

Streams and Their Buffers

Streams are parts of a watercourse, either naturally or artificially created, that contain intermittent or perennial base flow of groundwater origin. Several streams traverse the landscape within the Lower Susquehanna River Watershed consisting of 6,846 acres with 1,917 acres within the City and Swan Creek Watershed consisting of 15,175 acres containing 1,851 acres within the City. By conserving streams and their buffers, floodplains, wetlands, steep slopes and wooded areas, the City is able to enhance the quality of water, the diversity of habitat, and streamside and instream vegetation for aquatic insects, worms, clams, snails, crayfish, fish, salamanders, frogs, turtles, snakes, birds, and mammals.

Stream buffers, as defined by the State, are areas that extend a minimum of 25 feet from the top of each stream bank along both sides of a stream. This 25' buffer is required for wetlands and waterways by MDE. Buffers are a crucial "best management technique" that reduces sediment, nitrogen, phosphorus, and other runoff pollutants by acting as a filter, thus minimizing damage to streams. The effectiveness of buffers depends on their width, (which should take into account such factors as contiguous or nearby steep slopes, soil erodibility, and wetlands), the type of vegetation within the buffer (some plants are more effective at nutrient uptake than others), and maintenance of the buffer (natural, unmowed vegetation is preferable).





100-Year Floodplain

Floodplains are areas adjacent to streams, rivers, lakes and the Chesapeake Bay that become covered by water during a storm event. The City is vulnerable to tidal waters and storm surge, rivers or streams, stormwater (urban) drainage problems and local drainage problems. The floodplain ordinance was first adopted in 1991 in order to provide a comprehensive approach to floodplain management and to mitigate loss and damages. Flood insurance is required for properties in the Special Flood Hazard Areas (SFHA) and the flood zones are identified on Flood Insurance Rate Maps (FIRMS) published by the Federal Emergency Management Agency (FEMA).

The ordinance addresses Federal and State programs provided by FEMA so the City can qualify for National Floodplain Insurance Program (NFIP) benefits and resources when a national disaster is declared. Also, the City voluntarily participates in the Community Rating System (CRS) so all citizens can benefit from reduced flood insurance rates. The City is vulnerable to both riparian and coastal flooding which provides unique challenges for the community and construction regulations for developers.

Defining the 100-year floodplain involves engineering studies, field observations, and other available information. In this respect, the definition, as it translates to a map, leaves little room for interpretation in comparison to other sensitive areas. Local protection regulations under the Growth Act may exceed, but may not, diminish State standards. Because of the distinction between tidal and non-tidal floodplains under State Law, the definition should reflect that distinction and closely mirror the following:

- **Riverine Flooding:** Riverine flooding occurs along creeks, streams and rivers from rain or snowmelt. Due to the relatively small drainage areas of the creeks and rivers, flooding usually occurs quickly during or just after a heavy storm.
- **Urban Drainage Problems:** Stormwater flooding usually occurs where the storm drains are not large enough to contain all the water from a rainstorm, snowmelt, and hurricane.
- **Local Drainage Problems:** Poor yard drainage occurs throughout the City. This is due in part to perched water tables, compacted soils, construction in low lying areas and poor grading. Proper grading allows rainwater to drain away from buildings.
- **Tidal 100-Year Floodplain:** The land along or adjacent to tidal waters that is susceptible to inundation by the 100-year flood generated by coastal or tidal flooding due to high tides, hurricanes, tropical storms, or steady off-shore winds.
- **Nontidal 100-Year Floodplain:** The land area along or adjacent to nontidal streams and bodies of water that is susceptible to inundation by the 100-year flood as a result of rainfall and runoff from upland areas. Nontidal streams convey flow downstream under the force of gravity and are not influenced by tidal (lunar) forces.
- **Tidal Wetlands:** are classified as lands that are continuously or intermittently inundated by the rise and fall of the tide.
- **Nontidal Wetlands:** The U.S. Army Corps of Engineers (Federal Register 1982) and the U.S. Environmental Protection Agency (Federal Register 1980) jointly define nontidal wetlands as: those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Floodplains are the products of natural floods which moderate and store floodwaters, absorb wave energies, and reduce erosion and sedimentation. Wetlands found within floodplains help maintain water quality, recharge groundwater, protect fisheries, and provide habitat and natural corridors for wildlife. Stream buffers found within floodplains also help to maintain water quality.

Safeguarding the many natural functions performed by floodplains benefits adjoining and downstream communities by minimizing the risks and costs associated with the loss of life and property; by contributing to the maintenance of water quality and quantity which may directly affect drinking water supplies and recreation opportunities; and, in many cases, by helping to restore the health of the Chesapeake Bay--a goal which will benefit the entire public.



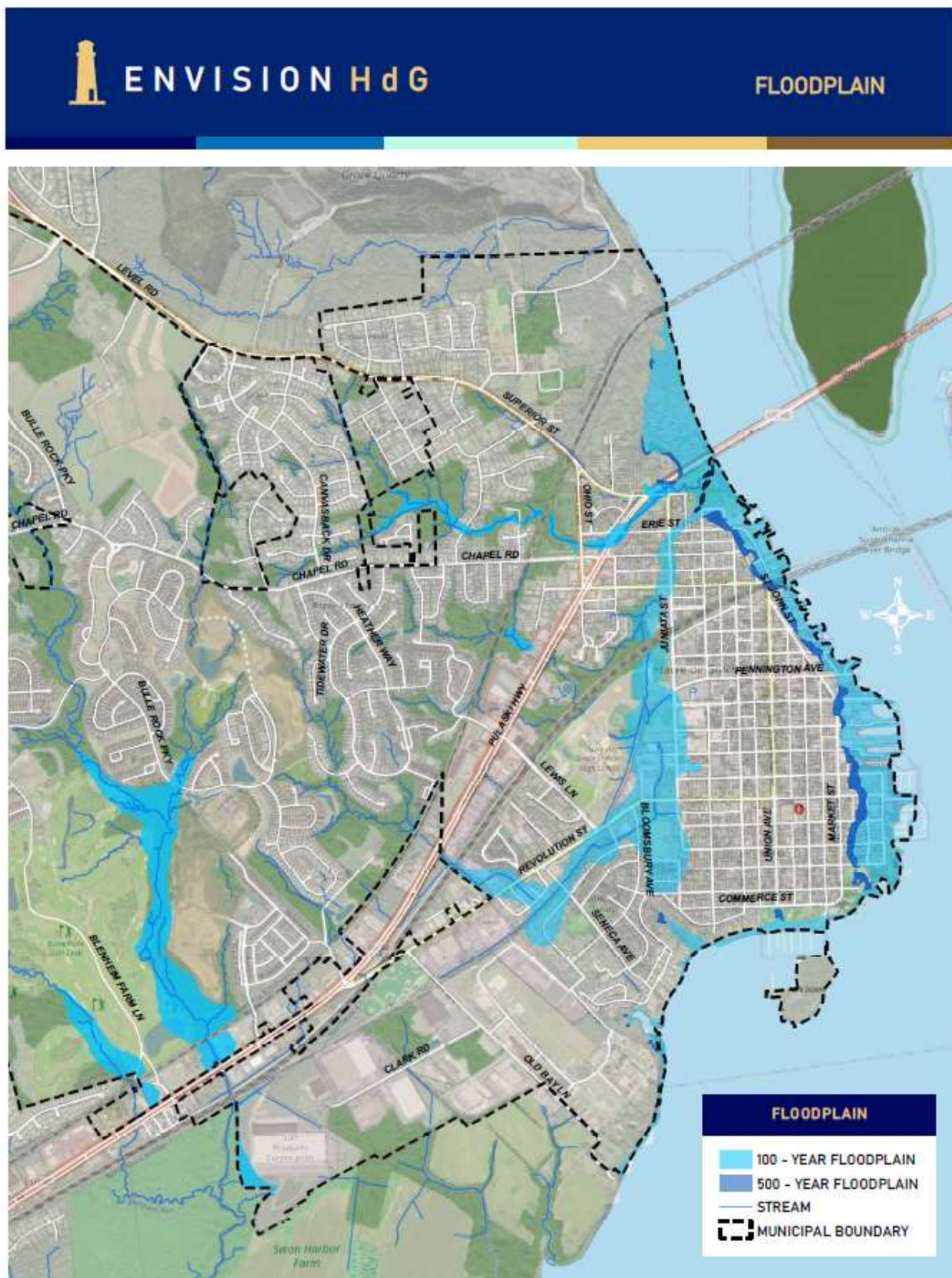
Juniata Street during Tropical Storm Isaias, August 4, 2020.



Coastal flooding during Hurricane Debby, August 9, 2024.



Coastal flooding during April 30, 2020 high water event.



Habitat Areas

Havre de Grace has unique habitat areas due to its geologic, terrain, and waterway conditions. It is a convergence of coastal plain and extreme fall-line grades at the edge of the Piedmont plateau and includes numerous streams, the Susquehanna River, and the Chesapeake Bay. Specific habitats in this Upper Bay region include in-water resources, like submerged aquatic vegetation (SAVs) and the benthic environment which support a wide range of plants, animals, and bacteria in the bottom of its waterways. Waterfowl, colonial nesting bird sites (like the great blue heron), and anadromous fish spawning areas are major considerations. The Upper Chesapeake Bay is historically famous for migratory waterfowl as part of the Atlantic Flyway and major fisheries for blueback herring and American shad due to its freshwater estuarine condition.



Virginia Institute of Marine Science SAV map of the Upper Bay at Havre de Grace, June 2023

Habitats of threatened and endangered species are not directly mapped in order to keep them protected. However a great source of information for Maryland's environmental resources can be found in MERLIN, an interactive mapping tool which shows a great range environmental information. It offers general mapping for Sensitive Species Project Review areas, Biodiversity Conservation Network areas, forest, and wetland layers that can be overlain to understand unique habitats. In addition to MERLIN, another great resource is the Virginia Institute of Marine Science, or VIMS, for up-to-date mapping of in-water habitat of SAVs.

Steep Slopes

In general, steep slopes are defined as areas over 25% and above that cause development difficulties. Private streets and walkways also become un-walkable on slopes over 20%. In terms of public utilities, slopes beyond 20% become unmanageable for the efficient and environmentally acceptable construction of storm drainage systems and sanitary sewer laterals. A slope of 30% is normally the cutoff beyond which cut and fill can be benched without accelerated engineering treatment. Furthermore, it should be noted that the great majority of soils found in Maryland are highly erodible at 30% or greater and are unacceptable, for the most part, for usable yards, active recreation open spaces, or accessory use.

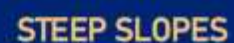
The City's elevation ranges from the rolling hills and valleys of the Piedmont to the flat terrain near the Chesapeake Bay of the Atlantic Coastal Plains. Variation in elevation ranges from sea level to 420 feet above sea level. Much of the developed area of Havre de Grace is located in the Coastal Plain Physiographic Province. For walkability and bike-ability to be increased, ADA regulations and Universal Accessibility is concerned, slopes with less than 8% are preferred. The City is encouraging biking and walking as an alternative method of transportation that contributes to the accessibility and small town charm. By increasing biking and walking paths and trails on existing slopes the City increases connectivity of disparate and fragmented areas to its urban core and beyond.

Tidal and Nontidal Wetlands

In this region, wetlands consist of 3 types: estuarine, riverine, and palustrine. Maryland State requires a 25-foot buffer around nontidal wetlands and a 100-foot buffer surrounding wetlands of Special State Concern. Wetlands in addition to floodplains improve water quality through infiltration and percolation, provide diverse wildlife habitat, slow storm flows and dissipate flood water energy allowing more of it to percolate into the ground, and maintain surface water flow. Wetlands act as transition zones between open water or aquatic environments and uplands. They are both inland freshwater areas not subject to tidal influence and adjacent to tidal waters that are subject the tidal influence and inundation. Several wetlands exist and provide valuable high-quality habitat for native flora and fauna.

- **Estuarine Wetlands:** Form along the tidal reaches of rivers and streams, and along the margins of estuarine bays and straits. Estuaries are home to unique plant and animal communities that have adapted to brackish water—a mixture of fresh water draining from the land and salty seawater.
- **Riverine Wetlands:** Found in floodplains and riparian zones associated with stream channels. Riverine systems can be broken down based on watershed position (and thus hydrologic regime) into tidal, lower perennial, upper perennial, and nonperennial subclasses.
- **Palustrine Wetlands:** Can occur in both floodplain and non-floodplain landscapes and can be ephemeral, seasonally or permanently inundated. These wetlands include bogs, fens, marshes and forested wetland swamps, and are dominated by persistent plants, mosses, shrubs, lichens and trees.

The National Wetlands Inventory has identified 12 areas of wetlands within City limits. Wetlands are regulated by the Environmental Protection Agency (EPA) which writes the guidelines for determining whether a particular activity will affect wetlands and whether it may be permitted. The U.S. Army Corps of Engineers (USACE) in conjunction with Maryland Department of Environment (MDE) oversee the regulatory process for wetland administration. Site-specific wetland determination occurs at the site and subdivision review level. Wetlands, if applicable, can be protected and preserved using the Forest Conservation ordinance through DNR if they meet certain criteria, further strengthening the City's ability to protect and preserve existing wetland habitat.



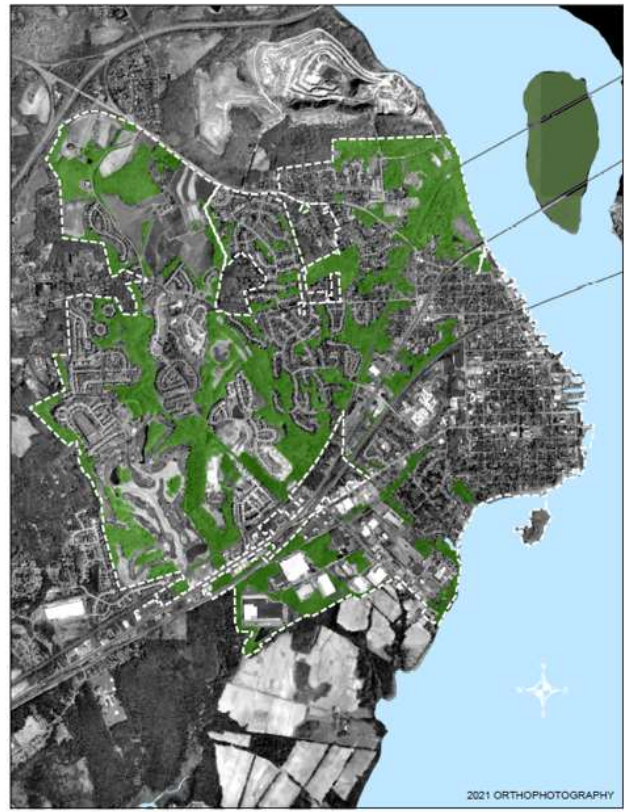
Forest Conservation

Forest cover has been declining in Maryland for several decades due to land development. The Forest Conservation Act is intended to slow the loss of forest and is currently being strengthened by the State of Maryland to ensure there is “no net loss” of forest cover. The City’s Forest Conservation ordinance was first adopted in 1992 and regulates forest retention, removal, afforestation, and reforestation requirements during the development process. The ordinance is implemented in collaboration and guidance of the Maryland DNR. Unfortunately, the City has lost a substantial amount of forest cover due to development, as shown in the following aerial photos comparing 1986 forest cover with 2021 forest cover. The 1986 aerial photo occurred prior to the development of Bayview Estates, the Bulle Rock Planned Adult Community, Scenic Manor, and Grace Manor, as seen below.

Forest Cover, 1986



Forest Cover, 2021



At the site and subdivision plan review, a Forest Stand Delineation (FSD) and Forest Conservation Plan (FCP) are required for a development plan where land disturbance is 40,000 square feet or greater. A forest is a biological community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. Maintaining and increasing forest cover provides significant benefits including habitat enhancement, stormwater infiltration, shoreline stabilization, nutrient absorption, and temperature mediation.

All existing ecologically viable forest areas contribute to the character of a landscape. Forest areas that are important for the conservation of a group of bird species called Forest Interior Dwelling Species (FIDS) because they require habitat in the interior of forests for optimal reproduction and survival. These lands are critically important to preserve because many species and important ecosystems are dependent on large forested blocks. The benefits to the community are exponential. Maintaining large tracts of undisturbed woodlands or other natural vegetation within developments are a priority. Such stands help control stormwater run-off, minimize erosion and sedimentation of streams, provide wildlife habitats, and provide shade to help moderate local temperatures in addition to acting as hubs and corridors. Also, they form visual buffers and are scenic in their own right. The City’s Forest Conservation and Landscape ordinances must be strictly enforced to preserve the tree canopy and to meet state standards, which are currently being strengthened.

Tree City USA is a voluntary program the City has participated in since 2002 which has community benefits that directly impact the people, neighborhoods, and City as a whole. Current efforts consist of improving forest cover and tree canopy downtown which helps improve water quality and reduce energy costs while promoting healthy green spaces. This is done through grants and program efforts, a community tree ordinance, forest conservation ordinance, landscaping ordinance, and site plan review process. These initiatives contribute to the mission to promote a greener, healthier, and a more livable environment for residents.

Landscape Conservation

The Sensitive Areas, Volume II of the State's guidance document includes landscape conservation as a required area for protections. This includes wildlife corridors, FIDS bird habitat, riparian zone corridors, scenic vistas, and geologic features. For the purpose of this section as related scenic vistas, cultural landscapes are also described since they are significant cultural landscapes worth recognizing and preserving.

Wildlife corridors consisting of stream valleys and forested areas should be identified and retained during the development process. These are not only environmentally regulated spaces but can be tied with recreational use by adjoining communities. Forest corridors specifically lend to FIDS bird habitat which require interior forests that are more than 100 meters from a forest edge.

Although the City currently lacks regulation and protective measures for landscape conservation and scenic vistas, several exist within the City and should be identified for preservation. For instance, views from MD 155 to the Chesapeake Bay are stunning. The vistas offered here are a gradual descent from the I-95/MD 155 interchange into the historic area from an elevation of 420 feet then steep grades along the fall line to the coastal plain. Private preservation of 50 acres along MD 155 through a Maryland Environmental Trust easement protects the viewshed from the historic structure of Sion Hill National Historic Landmark to the Bay. Retaining that viewshed is important for the gateway experience to Havre de Grace from MD 155.

An unfortunate cultural landscape loss is the allee associated with the Mt. Pleasant II Georgian mansion located in Bulle Rock that was part of the original homestead. Though the historic structures and surrounding grounds are under Maryland Historical Trust (MHT) easement, the allee was separated by the development's road system and is under construction. Although the original structure still stands, the significance of the context could have been preserved and as a result, a historic landscape will be forgotten. These are the kind of historic landscape features that are well worth preserving as part of site plan and subdivision review. As the City continues to grow, it should be careful not to lose the rich cultural historic landscapes that make it appealing.

Distinctive cultural landscapes under public ownership along the waterfront include the Concord Point Lighthouse and Keeper's House and the Lock House Museum and grounds, all of which are protected under Maryland Historical Trust easements. The context of these important public spaces is intended to be preserved so that both views from and to the historic structures are protected. Additional public buildings of historic significance are the Moore Family Homestead (3 contributing structures) and the Cultural Center at the Opera House and adjoining #2 Fire House. Careful consideration must be made when seeking improvements on these cultural landscapes.

Chesapeake Bay Critical Area

In 1984, the Chesapeake Bay Critical Area (CBCA) Protection Act passed and was adopted by the City in 1988, designating the Critical Area as all land within 1,000 feet of the mean high-water line of tidal waters (Chesapeake Bay) or the landward edge of tidal wetlands, and all waters of and lands under the Chesapeake Bay and its tributaries (Susquehanna River) with the intent to preserve the water quality of the bay as well as wildlife habitat along the shoreline. Within the 1,000-foot Critical Area is also a 100-foot Buffer where disturbance is additionally limited. The Buffer is subject to stricter requirements than the rest of the CBCA by striving to improve the function of the Buffer as part of all development activities. Located to the North along the shoreline are Intensely Developed Areas (IDA) and Resource Conservation Areas (RCA) Designations shown in the adjoining map.

RCA: Resource Conservation Areas make up approximately 80% of the Critical Area in Maryland and are characterized by natural environments or areas where resource-utilization activities are taking place.

Resource utilization activities include agriculture, forestry, fisheries activities, and aquaculture, which are considered “protective” land uses. RCAs are required to be developed at a residential density of less than 1 dwelling unit per 20 acres or be dominated by agricultural uses, wetlands, forests, barren land, surface water, or open space.

IDA: Intensely Developed Areas are defined as areas of twenty or more adjacent acres where residential, commercial, institutional or industrial land uses predominate. IDAs are areas of concentrated development where little natural habitat occurs. In IDAs, the main focus of the Critical Area Program is on improving water quality and protecting habitat areas.

10 Percent Rule: Water quality must be improved with a 10% nutrient reduction - pollutant loads generated from a developed site to a level at least 10% below the loads generated at the same site prior to development. This requirement is commonly referred to as the "10% Rule".

HPA: Habitat Protection Areas are sensitive areas that help protect water quality and provide wildlife habitat.

The line of demarcation between RCA and IDA within the City follows the northern edge Superior Street inland 1,000 feet from the shoreline of the Susquehanna River. Lot coverage and/or mitigation of impervious surface improvements are required depending on Critical Area designation. IDA (red) is least restrictive designation and RCA (green) is most restrictive. The protection, restoration and enhancement of the shoreline is a priority for the City to continue to provide safe, accessible and quality experiences for the community and visitors while increasing the quality of life for people, plants, and animals.

The Critical Area regulations require that designated habitat protection areas be identified, conserved, and promote the use of clustering of development to reduce the amount of impervious surfaces and increase the area of natural vegetation. Within the RCA, the retention and increase of forested areas is extremely important to the health of the Chesapeake Bay. In RCA area, Critical Area regulations require that all development projects include the replacement of cleared forest cover in ratios ranging from 1:1 to 3:1, depending on the percentage of forest acreage cleared. Constellation and public lands to the north of Superior Street as well as Tydings Island are designated RCA within City-limits.

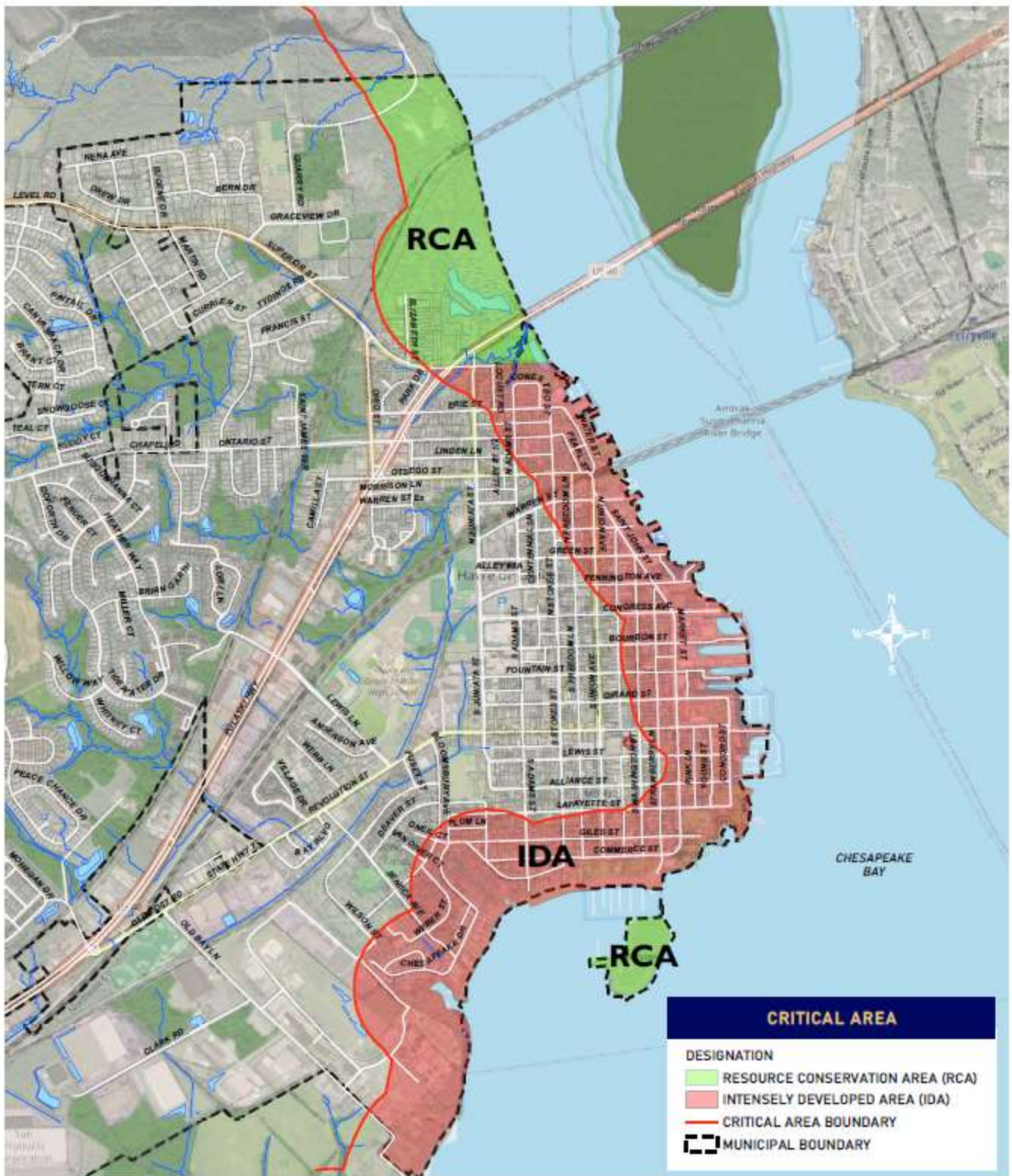
Some aspects of the CBCA are native plants, pollution reduction, stormwater mitigation, coastal resiliency and shoreline accessibility. The term used for a rooted aquatic plant that grows completely under water is submerged aquatic vegetation (SAV). These plants occur in both freshwater and saltwater but in estuaries, where fresh and saltwater mix together, they can be an especially important habitat for fish, crabs, and other aquatic organisms.

This is evident with their extensive riparian buffer and living shoreline projects in addition to their critical area rigorous site plan review process and collaboration with other environmental agencies in relation to development. Collectively, these aspects will continue to guide the restoration of the living shoreline and coastal resiliency efforts that make Havre de Grace a unique place to live and play. So far there are approximately 2,780 linear feet of living shoreline projects completed with more to come in the future. As the City continues to grow and look forward, the accessibility and connection to the water will be enhanced for current and future residents and visitors.



ENVISION HdG

CHESAPEAKE BAY CRITICAL AREA



Eroding Shorelines

The City has approximately 3 miles of shoreline located along the Chesapeake Bay and Susquehanna River which are currently under various phases of land use and development conditions. As described in the prior section, the shoreline is subject to the Chesapeake Bay Critical Area Law and criteria of 1,000 foot and 100 foot requirements, which regulates development as well as shore erosion control (such as the construction of stone revetments) and other shoreline disturbance activities.

Extensive efforts to protect, conserve, and enhance the shoreline through a living shoreline program is underway through the City's Department of Public Works. Currently, approximately 2,780 linear feet – over half a mile – of shoreline have been completed via the living shoreline method and provide significant benefits to stormwater runoff and water quality. These projects are combining regenerative stormwater conveyances with living shorelines to treat stormwater runoff from older portions of the City that did not have water quality stormwater management features. The supplemental planting of native vegetation, bank stabilization, and erosion control enhances the water quality and wildlife habitat on both public and private properties along the Bay ensuring continued economic and ecological enjoyment for years to come. Please see the *Water Resources Element* chapter for more information on these projects.

Fisheries

Fishing has played a significant role in the history of Havre de Grace and is part of its residents' heritage, and it is a main ingredient in the City's quality of life and natural resource-based economic development. The waters adjacent to the City have key features for a good urban fishery – waterfront access, adequate water quality, structures such as piers, pilings, established submerged aquatic vegetation (SAV) beds, and rocks – as well as fish species produced from nearby productive spawning and nursery areas. A wide variety of gamefish are readily accessible including largemouth, smallmouth, and striped bass, catfish, American shad, yellow and white perch as well as blueback herring, alewife, American gizzard shad, and other forage fish. Commercial fishing has been historically and continues to be a key component of the City's waterfront as a working waterfront. It is important to recognize the inherent value of the City's estuarine ecological systems and its commercial, recreational, and eco-tourism draw.

As described by the DNR Natural Resources Fisheries Ecosystem Assessment Division, retaining access to the water is critical to accommodate fishing access, noting that it is paramount that fishing access is considered during living shoreline projects². These projects can inadvertently cut off water access to anglers. Launch ramps and marinas within town are important to provide access to productive recreational fisheries in the tidal-fresh Susquehanna River, Susquehanna Flats, and other tidal waters of the northernmost Chesapeake Bay. Additional piers and a waterfront trail should provide access for shore-bound anglers, some of whom are likely to be low-income residents that depend on the fish they catch to supplement their diet. It is also important to note that some shore locations are designated as free fishing areas and can provide low-cost entertainment.

DNR Freshwater Fisheries Division noted:

The waters accessed through Havre de Grace provide some of the most productive tidewater fishing habitat in the state for freshwater fisheries. The multimillion dollar fishery for largemouth bass, for example, has been a hallmark of the upper Chesapeake Bay and Havre de Grace for decades. Other burgeoning fisheries have aimed sights toward invasive fishes, northern snakehead and blue catfish. With such charismatic and highly popular fisheries, Havre de Grace has become well-poised to capitalize on its location in the watershed and offer amenities to the fishing community that surrounding areas cannot. Specifically, Tydings Memorial Park offers multiple boat ramps, restrooms, food, a marina, and a free fishing pier. The launches have not only been used by boaters fishing for the state's most popular sportfish, largemouth bass, but also by bowfishers who target snakeheads and charter boat captains whose clients experience the idyllic beauty that the watershed provides.

² From Comments received from Department of Natural Resources on the Comprehensive Plan update, June 2024. Extensive comments were received from both the Fisheries Ecosystem Assessment Division and Freshwater Fisheries Division.

As estuarine nurseries within the City, Swan Creek and its Gasheys Creek tributary are non-tidal anadromous fish spawning streams that can be adversely impacted by development. These unique habitats benefit from greater stream buffers and conservation of adjoining undeveloped land. As per DNR:

The watershed is estimated to be 10.2% impervious as of 2023, indicating the watershed has transitioned from rural to suburban. As impervious surface increases above 10% and nears 15%, increasingly negative, irreversible ecological shifts occur resulting in decreased fisheries productivity and a watershed that becomes less responsive to conservation and restoration efforts. We recommend extra consideration for development impacting Swan Creek's watershed to conserve its remaining function as a spawning and nursery area. Conservation of undeveloped land should be a priority. Stormwater management, while necessary, should not be relied on to maintain natural functions. At this level of development, we would not recommend restoration practices that require extensive reconstruction and re-engineering of the stream for the purpose of meeting nutrient and sediment TMDLs; these projects have not been demonstrated to aid conservation of stream organisms and fish. Conservative use of road salt or use of de-icing alternatives could be considered for this watershed; salt can be toxic to freshwater organisms and it can negatively impact anadromous fish eggs and larvae.

Dark Sky

Havre de Grace sits in a relatively clear sky sweet spot between the urban areas of Wilmington / Philadelphia to the north and Baltimore / DC to the south. This location results in less polluted air quality with blue skies during the day and star lit skies at night. The City's dark skies in particular are further buffered by the surrounding Susquehanna River / Chesapeake Bay on one side and preserved rural land on the other. However, the ever increasing presence of artificial lighting dilutes the treasured wonder of the night sky both in Havre de Grace and worldwide. Excessive artificial light at night has also increasingly been linked to adverse impacts on wildlife and human health. While recent moves to LED lighting has produced the environmental benefit of reduced energy consumption, it has also produced greater glare which exacerbates artificial light's negative night sky impacts.

Over recent years, Havre de Grace has added anti-glare regulations to Zoning Code, Subdivision, and Site Plan regulations. However, unshielded, and now LED, lights continue to proliferate. An example of this is the unshielded BGE acorn-type street light recently installed in The Residences at Bulle Rock. Those lights direct more light to the sky and neighboring properties than to the streets that they are supposed to illuminate. The impact of those lights has been made worse by the switch over to glare producing LED lights. Increased lighting glare not only impacts neighboring properties but results in an unnatural glow that extends into the night sky, potentially affecting diurnal rhythms of humans and wildlife. This is a new area of environmental protection that needs to be considered and addressed as it is an unnecessary encroachment into a community's quality of life and enjoyment of the night sky. The City Code should incorporate anti-glare lighting regulations into a comprehensive set of lighting regulations that mandate shielded lights and limit glare producing light sources.

GRANT FUNDING OPPORTUNITIES:

Due to the location of the City at the mouth of the Susquehanna River and the Chesapeake Bay, the City qualifies for many funding opportunities. The City has been strategically and aggressively pursuing funding and has been successful in obtaining several grants from various sources to use in combination with funding from the City Capital program to fund the engineered plans and the permitting. In addition, the City has been successful in acquiring grant funding after design is completed and permits have been obtained. The following are grants that the City has gotten to construct shoreline projects:

- Harford County Government
- Department of Natural Resources (DNR): Chesapeake and Coastal Service
- Chesapeake Bay Trust Funds (CB Trust)

- DNR - Coastal Trust Funds (CT Funds)
- Natural Resources Conservation Service (NRCS)
- Maryland Department of Environment (MDE)
- Maryland Department of Transportation State Highway Association (MDOT SHA) Recreational Trails Program

Additional Funding Opportunities Available:

- National Fish and Wildlife Foundation (NFWF)
- Federal Emergency Management Agency (FEMA)
- Environmental Protection Agency (EPA)

Currently, the City is working on grant proposals for the Lilly Run stream that traverses through several neighborhoods and is often a choke point for flooding. Harford County Government has expressed interest in funding some of the flood management projects in exchange for a share of impervious area treatment credits.

The City has established a Chesapeake Bay Critical Area Taxing District that generates annual funding for projects within the CBCA and can be used in combination with grants to use on specific projects and also for the living shoreline projects. The City also utilizes the Critical Area funds for the maintenance of these projects. The City is fortunate to have built partnerships with many grantors on these beautiful projects to ensure the continued success and enjoyment for many generations to come.

BEYOND 2024:

Havre de Grace is an expanding community whose unique position at the mouth of the Susquehanna River and the Chesapeake Bay makes it an appealing place to live, work and explore. With several tributaries traversing the City (Lilly Run, Fountain Run, Gasheys Creek, and Swan Creek) that carry stormwater into the Susquehanna River, there is an abundance of opportunity for recreation and community engagement with nature while mitigating urban flooding. As a benefit, the City is dedicated to providing the community with the resources to continue to age in place while extending cost saving benefits to citizens on flood insurance. This is done through voluntary partnerships with NFIP, CRS, and FMAP. Their programs provide discounts and real tangible cost savings to vulnerable residents who are impacted through coastal flooding, stormwater inundation, and natural hazards as a direct and indirect result of land use, development, and significant storms. Looking beyond 2024, the City is undergoing several public infrastructure improvement projects that benefit the community, replace dilapidated infrastructure, expand recreational opportunities and enhance the quality of life, while protecting, preserving and capitalizing on existing environmental assets for future generations to enjoy.

ACTION ITEMS:

The following action items are meant to identify key features and opportunities for improving the surrounding environment's balance between economic development, environmental resources, and sensitive areas.

- Recognize open spaces and natural resources as key City infrastructure and develop a comprehensive natural resource map to preserve sensitive environmental features and guide development, to include watercourses, wetlands, forested areas, historic landscapes, critical habitat, steep slopes, and scenic vistas;
- Improve stormwater management and runoff water quality in the older portions of Havre de Grace through innovative techniques, such as small bioretention facilities, storm drains and grass filter strips;
- Consider adjacent land uses in relation to important environmental resources when preserving, developing, and traversing landscapes;
- Require all development to investigate areas that may contain sensitive areas such as wetlands, forest, and vulnerable habitat prior to building. Protective measures should be submitted along with the project design

unless it can be shown that these activities or disturbances will not have or cause adverse impact on the environment;

- Enforce existing Forest Conservation and Landscape ordinances and provide additional mechanisms for recognizing significant forested properties;
- Recognizing that Maryland's Department of Natural Resources Forest Service is strengthening its Forest Conservation regulations, update the City's local regulations to ensure application and enforcement of new regulations and protection of contiguous priority forests – especially along streams and in wetland areas – during the development review process;
- Integrate review and approval of Forest Conservation and Landscape Plans within the Site Plan and Subdivision applications reviewed and approved by the Planning Commission;
- Provide mechanisms for recognizing and maintaining Forest Conservation properties;
- Create criteria and programs to further recognize and preserve important historic landscapes and scenic vistas;
- Continue to update and enforce State of Maryland regulations as they are amended, to include but not limited to Stormwater Management, Forest Conservation, and Chesapeake Bay Critical Area;
- Identifying opportunities for civic facilities and infrastructure to be retrofitted and integrated with a higher environmental standard to reduce their carbon footprint and impact, especially when located within CBCA and other sensitive areas;
- Develop local regulations that strengthen requirements for stream buffers, much like Harford County has, where there is a Natural Resource District with a minimum 75' buffer for streams which will help to keep soil and pollutants from entering surface waters to protect stream health. Riparian buffers should be created or widened along streams that harbor important ecological and recreational resources to help protect and enhance current habitat conditions, and these stream buffers should be increased in areas with steep slopes by 2 feet per 1% of slope, as per the DNR recommendations;
- Identify opportunities to increase the City's CRS rating to provide cost saving benefits to the community and create, expand and enhance the Emergency Response program for natural disasters through public outreach and community engagement. (text, phone, email, social media);
- Implement identified capital improvement projects within areas of extreme flooding, especially related to the Lilly Run stream system, for relief from flooding for life safety and property protection;
- Map any wetlands of "Special State Concern";
- Create criteria to further recognize and preserve important historic landscapes and scenic vistas;
- Consider opportunities for fish passage when replacing aging infrastructure at stream crossings. Bridge improvements or culvert replacements should be installed to accommodate high flow events and to minimize obstacles to the movement of both resident and migratory aquatic species;
- Retain water access during the development of living shoreline projects for enhanced fishing opportunities;
- Recognize the importance of and protect the in-river and Chesapeake Bay habitats – such as the Susquehanna Flats and its Upper Bay and shoreline SAV beds – as the tremendous ecological resources that they are.
- Enforce existing dark sky/anti-glare provisions of the City Code and implement a comprehensive dark sky ordinance to prevent and/or correct light pollution.

References:

For more information see the *Sensitive Areas - Volume I* and *Sensitive Areas - Volume II* sections from the Models and Guidelines.

- <https://gisapps.dnr.state.md.us/coastalatlas2019/MERLIN/index.html> (MERLIN)
- <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/> (Wetlands Mapper)
- <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77> (Critical Habitat)
- https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/digitaldata.aspx (Digital Data Products)
- <https://data.imap.maryland.gov/maps/93218f38c5014853bb308dacdaf23a9c/explore> (CRAB)
- <https://hcggis.harfordcountymd.gov/planning/harfordgis/> (Harford GIS)

MERLIN

*Maryland's Environmental Resource & Land Information Network (MERLIN)
web mapping application can be found on the
Maryland Department of Natural Resources website.*

10. HISTORIC AND CULTURAL RESOURCES

Havre de Grace's historic core is located along the western edge of the Susquehanna River where it meets the Chesapeake Bay. Beginning as a ferry crossing, the old town area is an eclectic mix of buildings on beautiful tree-lined streets. The City's historic development is tied to its location, with its deep water access to the tidewater mid-Atlantic region and is the closest point of overland transportation between eastern and western shores of Maryland. This was not insignificant for colonial transportation routes – whether by water and by land – or for later history with canal building, railroad construction, or highway development. Havre de Grace's history is directly tied to its relationship to its land and water transportation routes.

Preservation of the City's historic resources is key to maintaining the beauty, uniqueness, and heritage of Havre de Grace. Havre de Grace boasts a National Register Historic District of approximately 1,100 buildings, of which nearly 800 contribute to the historic and cultural significance of the City. This large district is comprised of residential, commercial, and older industrial buildings that predate the mid-twentieth century and includes the historic downtown, the waterfront, and much of the older housing stock of the community. In addition, there are several museums located in Havre de Grace that tell the story of the City's development and to national events, its relationship to maritime history, and its hunting and fishing history.

The City of Havre de Grace has a rich and active history and was a region of early contact with native peoples in 1608 with the European exploration of the Upper Bay by Captain John Smith and his team. They first mapped the Chesapeake Bay and the Susquehanna River to the limits of navigable waters just north of Havre de Grace. English settlement in Havre de Grace began in the mid-1600s, first as a site called Harmer's Town, then as Stockett's Plantation. The area grew as a result of the establishment of a ferry crossing in 1695 and was originally known as Susquehanna Lower Ferry. Havre de Grace was formally named on the Robert Young Stokes earliest plat of the town in 1782 during the Revolutionary War and was incorporated as a town in 1785. Interestingly, it was actually considered for the nation's capital due to its central location along the eastern seaboard. As part of the British Chesapeake Campaign, Havre de Grace was heavily damaged by the British during the War of 1812.

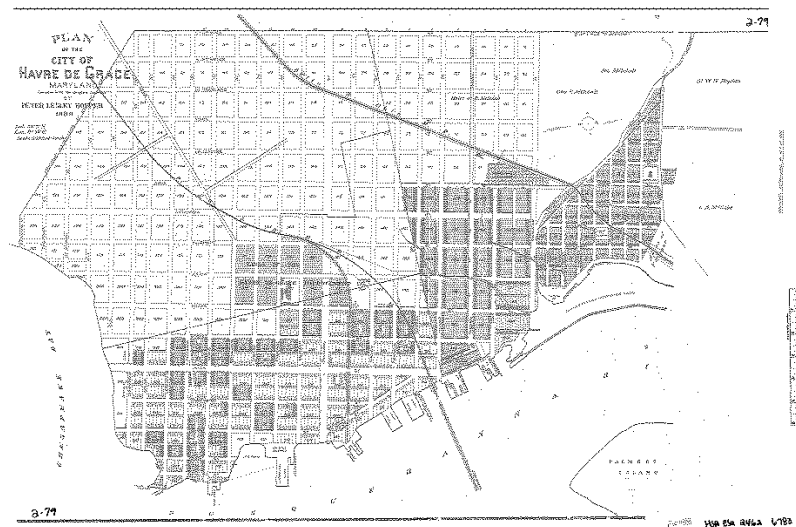
Transportation is an important and recurring thread in the historical development of Havre de Grace. Located at the head of the Chesapeake Bay, Havre de Grace was a small port as well as the most reasonable, available point for overland travel between the eastern and western shores of Maryland. Its central location allowed it to become a significant thoroughfare between Baltimore, Philadelphia, and other colonial settlements along the mid-Atlantic coast, much traveled by Revolutionary leaders. The City's importance as a transportation center heightened with the building of the Philadelphia, Wilmington, and Baltimore Railroad (later, the Pennsylvania Railroad) starting in 1836 and the opening of the Susquehanna and Tidewater Canal in 1840. With access to water and rail opportunities, Havre de Grace was prime for economic activity, growth, and industry. It grew to become a thriving, prosperous center of commerce, the evidence of which can be seen in the concentration of the historic residences and commercial structures today.

The original 200 acres of the City was laid out in a traditional grid pattern with streets running north/south and east/west with Union and Congress Avenues as the principal streets. The grid street

pattern provided order in anticipation of future growth, and development in the older portions of the City occurred under this design. Expansion of the City was contemplated by C. P. Hauducoeur's map of the head of the Chesapeake Bay and Susquehanna River in 1799 which laid out an additional 800 acres. Later maps used this *Plan of the town of Havre de Grace* to serve as the basis for planning additional grid streets and extensions of the town, to include the Septimus Norris map of 1838 and the Peter Lesley Hopper Plan of the City from 1889.

Historic structures within the City are many and run the gamut in terms of their age, design, detailing, and functions. Simple but well-crafted Carpenter Victorian duplexes and single-family residences are mixed with intricate Queen Anne homes of the wealthy. Working class row-homes, older industrial buildings, such as the Lock House for the Susquehanna and Tidewater Canal, the Concord Point Lighthouse, and the Seneca Cannery, architecturally interesting churches, and an intact commercial downtown are just a few of the uses within the historic portions of the City. More modern structures were built within the older areas of the City, but the grid streets and small lanes serve to maintain the historic development patterns.

Preservation of the historic resources and the historic context of the City are absolutely needed to retain the character of the City. The healthy inventory of historic structures within the setting of evenly measured, tree-lined streets is what makes Havre de Grace interesting and beautiful for residents and tourists alike. In communities that have the benefit of concentrated historic resources, historic preservation is a powerful economic development tool in attracting visitors interested in heritage tourism and those seeking a unique, small town experience. For residents, historic preservation is a wellspring of community pride, identity, and collective memory. It is imperative that City stakeholders develop the necessary tools, such as local historic preservation incentives or design guidelines within the National Register Historic District, to succeed in preserving resources within Havre de Grace. Tools such as these will strengthen the City's ability to manage the historic assets that are unique to Havre de Grace and lend to its physical character as the City moves into the future, blending old and new.



Plan of the City of Havre de Grace by Peter Lesley Hopper, 1889

VISION: *To expand the importance of Havre de Grace as an essential cultural and historic hub for the region, celebrating a shared history of place, its natural features, and its built environment.*

Historic Preservation Efforts within Havre de Grace

Background of Local Preservation Efforts

Early preservation efforts in Havre de Grace were carried out by the Susquehanna Museum of Havre de Grace, Inc. which restored the Lock House of the Susquehanna and Tidewater Canal. In 1975, it was

determined that a broader community effort was needed and a preservation committee, appointed by the Mayor and City Council, established a list of 65 structures that were significant to the City for documentation. In 1976, an additional 65 structures were added and subsequently 130 structures were inventoried as part of the Maryland Inventory of Historic Properties (MIHP) in the late 1970s.

In a 1979 study of Havre de Grace by Harford County, a historic district was defined, and each structure within it was assigned a code relating to its significance. In 1982, this historic district with approximately 1,100 properties was listed on the National Register of Historic Places by the Maryland Historical Trust (MHT). Nearly 800 of the structures within this National Register Historic District, or NRHD, were designated as contributing to the historic and architectural significance of the area. Identified as HA-1617, this large district includes all of the historic downtown and older residences of the City, generally from Juniata Street eastward to the waterfront. The map within this chapter shows the actual boundary and the inventoried sites.

The City's first historic district ordinance was in 1990 with adoption of Historic Area Zoning (Ordinance No. 729, as amended. April 1990; then modified soon after by Ordinance No. 757, October, 1991). This provision established a Historic District Commission to recommend to City Council the designation of any local historic districts in relation to the established NRHD. These districts were to be made up of any publicly-owned structures or privately-owned structures with the permission of the owner. Any exterior changes to a building located within a historic district was then subject to design review by the Historic District Commission. Normal maintenance was excluded from review.

In 2001, Ordinance No. 815 Historic Preservation replaced the prior ordinance and included additional defining terms, renamed the "Historic District Commission" to "Historic Preservation Commission", and clarified the role and membership requirements of the Commission. It also contained provisions for the development of rehabilitation and new construction design guidelines, as well as defines standards as based on the Secretary of the Interior's Standards for Rehabilitation for designated structures located in the local Havre de Grace Historic District. Property owner concurrence is also necessary under this ordinance for a structure's inclusion in the local district and the ordinance was written to require deed recordation of the landmark or district designation.

Most recently in 2023, Historic Preservation has been modified so that landmark properties are listed within the Department of Planning as opposed to deed recorded which has alleviated a huge burden on private owners to participate. For the first time, property owners are coming forth voluntarily to participate in this landmark and district designation. The City established rules for Certificate of Appropriateness (COA) review to guide the Historic Preservation Commission's review process, which is required for all improvements to structures that have been placed as a local landmark or district.

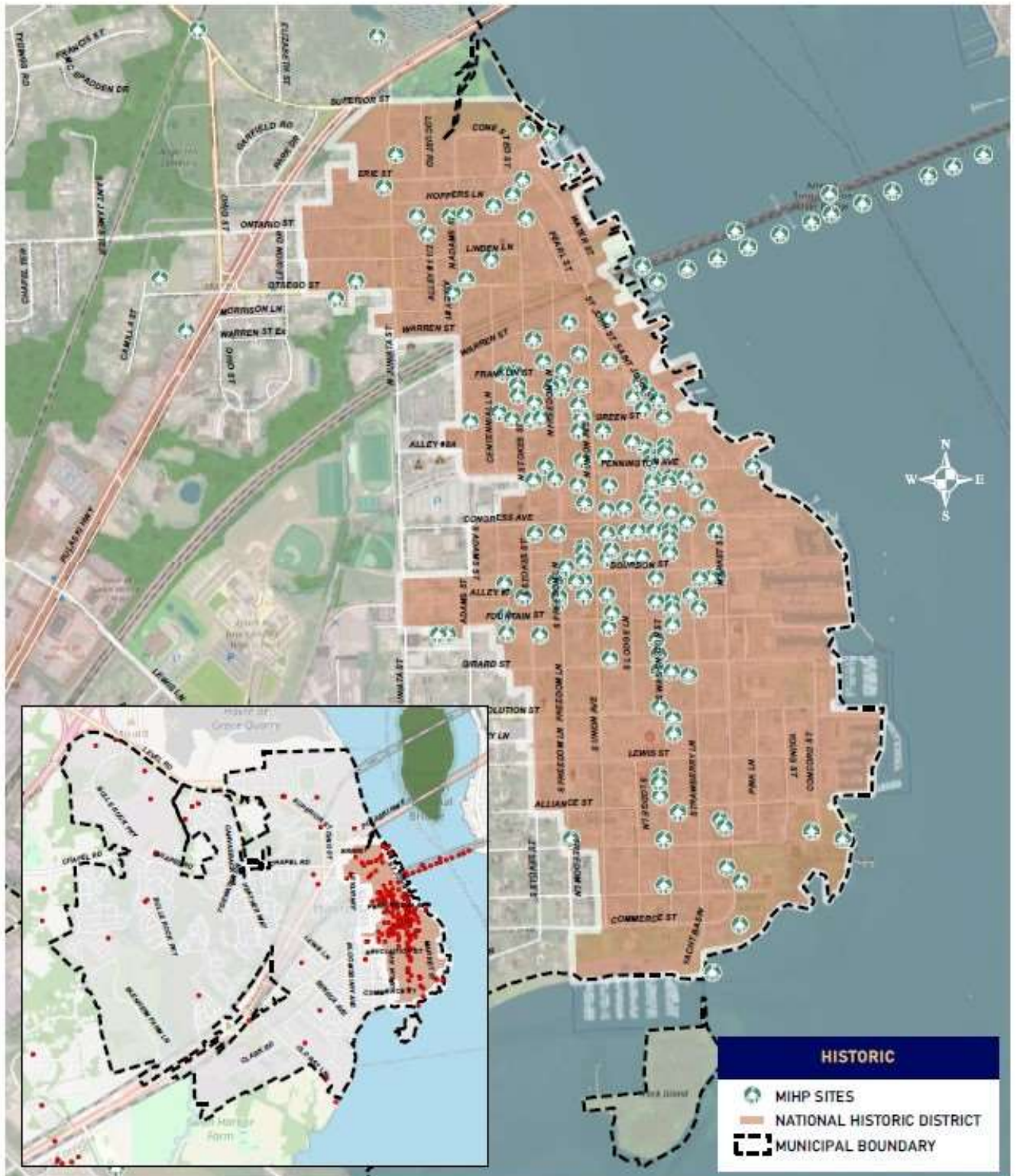
Local Program Framework

The City's framework consists of nomination and approval for local designation of historic landmarks and districts. Properties that are included in this listing are subject to review and approval by the Historic Preservation Commission which is guided by the Land Use Article, Maryland's enabling legislation. The nomination is then reviewed and approved by City Council for formal adoption. Historic landmark and district properties then follow the COA review by the Commission if there are any changes to the property or building alterations that require a building permit.



ENVISION HdG

HISTORIC PRESERVATION



The following criteria are to be used as minimum standards in determining the historic nature of a property prior to building permit applications:

- a. The historic or architectural value and significance of the structure.
- b. The relationship of the structure to the historic value of the surrounding area.
- c. The relationship of the exterior architectural features of the structure to the remainder of the structure and to the surrounding area.
- d. The compatibility of exterior design, arrangement, texture, and material proposed for use.
- e. Pertinent aesthetic and environmental considerations.

Within this framework, the Commission currently utilizes Harford County's Historic Preservation Design Guidelines and Secretary of the Interior's Standards as guidance documents for review of its voluntary local Historic Landmarks and Districts.

Harford County Historic Preservation Design Guidelines
<https://www.harfordcountymd.gov/DocumentCenter/View/17827/Harford-County-Design-Guidelines?bidId=>

Strengthening Preservation within the City

Strengthening procedures for demolition approval might be reconsidered for historic structures within the City of Havre de Grace.

Secretary of the Interior's Standards for the Treatment of Historic Properties
<https://www.nps.gov/orgs/1739/secretary-standards-treatment-historic-properties.htm>

Currently, there are no safeguards in place to halt demolitions of historically important structures with the exception of properties under preservation easements. Due to the attraction of the waterfront, Havre de Grace has continuing redevelopment pressure of properties, often with contributing historic structures. Stronger demolition controls with a meaningful review by the Historic Preservation Commission is necessary to curb this trend and would, at a minimum, be a "preservation light" approach that retains the historic fabric of the City.

Some outstanding examples of local rehabilitation and restoration projects have been accomplished, both by the private sector as well as by museums in the NRHD. However, there is a continuing remodeling and development infill movement that is causing the gradual erosion of the historic character of the district. Currently, there are no mechanisms to regulate modern improvements that degrade the historic integrity of structures within the City. Design guidelines might be created and adopted to provide guidance in regard to rehabilitation and new construction in the NRHD. The City could at this time adopt Harford County's Historic Preservation Design Guidelines in the interim, which were written for use by all jurisdictions within the county. Such design guidelines would establish preservation standards for the City for construction activity throughout the district.

Partnerships within the preservation community are incredibly important as resources are limited. Within the county, mutual support between staff and Commissioners – whether the Historical Society of Harford County, the municipalities, or Harford County preservation professionals – is highly valued. The broader resource base to draw from includes the National Trust for Historic Preservation, MHT, Preservation Maryland, Maryland Association of Historic District Commissions (MAHDC), the Archaeological Society of the Northern Chesapeake, and the Coalition of Maryland Burial Sites.

Staff within the Department of Planning successfully achieved Certificate of Local Government (CLG) designation by MHT. As described by MHT, this program recognizes counties and municipalities that

have made a special commitment to preservation. This commitment includes establishing a qualified historic preservation commission, to designate and review historic properties. This program is administered by MHT in partnership with the National Park Service and exists in every state. MHT also partners with the MAHDC to provide training programs for CLGs and other local governments. The City's Commission is a member of the MAHDC.

Importance of Preservation for Economic Development

Preservation of the City's cultural heritage is an extremely important aspect of economic development. Tourism, a major economic driver, is based on people's desire to visit interesting and unique places – it is why people travel. Yet, it is not just the cultural resources like the museums that attract visitors for heritage tourism but the full experience of the place that matters. The physical remnants of the City's collective past through its historic buildings and the retained context is what attracts visitors and continues to attract and hold residents to this City.

THE GREENEST BUILDING IS THE ONE ALREADY BUILT.

The City's great strength is its built environment and it continues to have a abundant opportunity to link economic development to historic preservation. Its large NRHD is mostly intact from a visual perspective and its location on the water at the top of the Chesapeake Bay is an attraction in itself. Since 2000, this has been the effort of the Lower Susquehanna Heritage Greenway -- to expand regional heritage tourism by connecting the unique, distinct communities along the Lower Susquehanna with trail systems for mutual economic benefit. In addition, this region is very accessible to visitors with its location next to a major Interstate highway and is convenient to a large population base of several East Coast metropolitan areas.

“Maintaining the historic character of the City serves as a fundamental piece of Havre de Grace’s appeal. It also provides opportunities for cultural growth.”

- Comprehensive Plan 2022 StoryMap Survey Response

Public Awareness and Property Owner Assistance

Protection of historic buildings may be accomplished by providing economic incentives, such tax credits. Financial incentives are offered at the state and federal levels but not locally. A local program for real estate tax credits for rehabilitation should be explored. Public awareness is also an important aspect of historic preservation, and there have been various projects over the years to promote local preservation efforts. These activities include very visible public restoration projects such as the Concord Point Lighthouse and the Keeper's House and the Lock House Museum, all under protective easements. The Opera House addition and renovation is an excellent example of a preservation project that was publicly-supported through voter referendum.

If the majority of property owners in the Historic District can appreciate the rationale behind the broad view of the significance of the district, then they may be more interested in rehabilitation of their buildings. While some of the incentives

MEDUSA, Maryland's Cultural Resource Information System
<https://apps.mht.maryland.gov/medusa/>

encourage rehabilitation and maintenance, more encouragement should be given to property owners in their private efforts. Public awareness campaigns need to promote preservation by focusing on the property owner as well as attracting the visitors. All incentives should be explored by the Historic Preservation Commission along with public awareness techniques such as continued lectures, published tours, and local preservation awards.

Historic District Sub-Areas for Neighborhood Conservation

The following sub-areas are of particular importance for focused preservation strategies and neighborhood conservation. They are called out separately because of their relationship to the historic development of the City, their integrity as a neighborhood or district, or as a contributing resource to the City's economic future.

1. *The Main Street District*
A National Main Street approach emphasizing rehabilitation of existing buildings is desired in the Main Street District. This is a program that combines economic vitality, design, promotion and organization for revitalizing and strengthening the downtown. Maryland has celebrated its 25th anniversary in 2023 for its Main Street program, and Havre de Grace has been a designated Main Street since 2002.
2. *Congress and Union Avenues*
Congress and Union Avenues were designed as wide, principal streets in the original 1782 Robert Young Stokes plat of the City. The homes along these historic corridors tend to be stately, and preservation of this context is extremely important for the City's overall character. Retention and restoration of historic buildings paramount. One critical area of interest is the redevelopment of UM Harford Memorial Hospital site due to its central location on Union Avenue where the City is working to redefine its zoning.
3. *Waterfront*
Much of the waterfront has been developed, however the historic Seneca Cannery is one of the few historic, privately-owned buildings that remain on the waterfront and should be a priority for preservation. Views and access to the waterfront from the rest of the NRHD should be maintained in redevelopment projects.
4. *Concord Point Cultural District*
This is an area of mixed uses and offers a concentration of museums and cultural resources for the visiting public. Scenic views to and from the Concord Point Lighthouse and Light Keeper's house have been preserved through property acquisition, where Concord Point Park has been expanded to the north and the open context of the Lighthouse has been reestablished.
5. *Commerce Street Corridor*
The integrity of this corridor should be maintained through targeted preservation strategies. While there is the potential for some infill development in this area, it should be scaled to existing structures.
6. *Washington Street Neighborhood*
This area is made up of contiguous blocks of interesting historic residences and its integrity should be maintained through targeted preservation efforts. Any infill development should

be scaled appropriately to be in keeping with the character of the existing neighborhood structures.

7. *Pennington Avenue West of Freedom Lane*

This corridor which connects the Main Street District with government buildings of the Harford County Public Library, Havre de Grace Visitors Center, City Hall and the Police Department is a significant gateway to the commercial downtown. Originally, Pennington Avenue was named St. Clair Street and provided a rail spur known as “The Cut” to the waterfront ferry landing for transporting passenger cars and freight over the Susquehanna River. Its central location offers the opportunity for some limited redevelopment and visual enhancements which will strengthen it as a more attractive connection between the downtown commercial area and the numerous civic uses adjoining it, developing it as a civic spine.

8. *Neighborhoods West of Union Avenue and the Otsego-Ontario Street Community*

Neighborhoods of Old Town Havre de Grace have experienced a considerable amount of residential rehabilitation and the continuation of this trend is greatly desired. These areas feature the Lock House Museum, Water Street public landing, and the North Park trail system and are in close proximity to public schools and their adjoining recreational complexes. The character and scale of infill development is important for neighborhood conservation in these communities.

Historic Preservation for Outlying Properties

New development is occurring in the formerly rural areas surrounding the City. Once grand estates are have become residential neighborhoods due to growing population demands and increased development pressures in areas where public infrastructure, such as public water and sewer, already exists. This Comprehensive Plan accommodates growth through annexation of the surrounding large farm tracts. However, preservation of the historic manor houses with some surrounding acreage to set historic structures apart from newer homes is desired during the development process.

Historically, the City was a tight, and fairly densely populated town and became the center of commerce for Harford County due to its relationship to the water, major roads, and rail lines. The mercantile nature of the City and the easy access to greater markets resulted in a considerable amount of wealth to be concentrated in the City and the surrounding region. Several large farm tracts with magnificent, ornate mansion houses remain in the immediate vicinity of Havre de Grace. It has only been in recent years that these large landholdings have been under increasing pressure to be developed. This is, in part, the result of Maryland Smart Growth policies, which encourage new development and growth in areas where public infrastructure exists, and a new-found appreciation for the beauty of Havre de Grace, its waterfront, and its convenient location within the I-95 corridor.

Protection of the historic manor houses is important, as they include some excellent examples of various periods in history and are the visible remnants of historically significant families both locally and, in some cases, nationally. Many of these structures have been documented and are part of the inventory of historic structures compiled by the Maryland Historical Trust. One structure, Sion Hill, is a National Historic Landmark, the highest designation of historical importance, because of the significance of various family members in relation to national history. It is the only designated National Historic Landmark in Harford County.

Property Descriptions

The following are property descriptions of the outlying historic structures in need of consideration in future development activity, two of which have already been annexed into Havre de Grace. These include Blenheim (HA 107) and Mount Pleasant (HA 763, 764). It is imperative that elected City officials and staff representatives work with the individual property owners during future annexation processes to preserve the important historic assets located on the remaining tracts.

1. *Sion Hill (HA-525); National Register; National Historic Landmark; private residence*

This structure is significant architecturally and, more importantly, because of the Rodgers family who occupied it. The 2-story brick Federal structure was built by the Reverend John Ireland about 1785 for his residence with a wing for a private boys' school, the Sion Hill Seminary. It changed hands in 1795 and from there the structure receives its primary historic significance as it relates to the Rodgers family, which included Commodore John Rodgers and three generations of descendants who were prominent naval leaders. This site has been given the highest recognition of National Historic Landmark as a result of the importance of individual family members' roles in the nation's history.

Sion Hill is a 3-part, Flemish bond brick structure with a central 2 ½ story gable-roofed main house and 2 2-story shed roof wings. It was designed as a neoclassical villa, with expansive views of Havre de Grace and the Chesapeake Bay. The house itself has numerous significant architectural features, the lunette windows set within the central pediments, the keystones over the 9-over-9 double sash windows, the 3 part window over the garden facade entry, and the medallion block cornice on that same facade.

2. *Blenheim (HA-107); private residence located within The Residences of Bulle Rock*

The statement of significance for this property from the Maryland Historical Trust includes the following: "Blenheim is a grand county estate dating back to the 18th century. The estate is dominated by an extremely large, 2 ½-story Victorian villa which was built for the Osborn family in the late 19th century. It is significant for its architectural style and for its place in the development of Maryland architecture and its association with some of the leading figures in Harford County history". This property is eligible for the National Register.

Blenheim is a composition of Victorian era architectural elements blended to create a magnificent Queen Anne styled mansion. The dwelling is sited on a terraced knoll at the end of an open field. The frame 2 ½-story residence consists of a central block with 2 end wings which project off the facade. The steeply pitched complex roof has intersecting gables, dormers, tall elaborately corbelled chimneys and is crowned with a prominent hip-roofed cupola. Other architectural elements include projecting bays, stick-like framing in gable ends, a variety of stained-glass windows, projecting bay windows, various porches, and galleries with turned balusters and latticework, and elaborately carved oak woodwork in the interior. This structure along with 166.2 acres of land were annexed into Havre de Grace in March 2002. The house is a private residence within The Residences of Bulle Rock community.

3. *Mount Felix (HA-526); private residence and winery which was under a 30-year MHT easement*

Mount Felix was built by Jacob Giles, one of Harford County's first large scale entrepreneurs and owner of many business interests in the mid-18th century. The large, brick, multi-part Georgian Mansion, with its kitchen wing, which may have replaced an earlier dwelling, is architecturally significant, as are the extant outbuildings, such as the meat house and slave quarters. This structure is eligible for the National Register and was under a Maryland Historical Trust non-permanent easement which began in 1977 but expired after 30 years.

Mount Felix is a 2 ½-story brick Georgian manor house with 2-story wings. The slate gable roof has 3 pedimented dormers, double chimneys incorporated within the brick end walls, and a central platform that may have been the base of an earlier cupola. The brickwork is laid in a stretcher bond, and there are jack arches over the 9-over-9 double sash windows. The main entrance located within the central bay is unusual and is probably a later change. It consists of a 1-story portico that is capped by a Palladian window located within a wood panel. There are several early outbuildings as well as a number of later agricultural buildings and barns.

4. *Mount Pleasant II (HA-763, 764); MHT easement; private residence located within The Residences of Bulle Rock*

Mount Pleasant is a grand county estate of the 18th century. The first house on the estate, and the first truly great house in Harford County, was built around 1750 by Jacob Giles. The current Colonial Revival structure, with the garden and original outbuildings, is highly significant, architecturally, as an example of this style that was very popular in the early 20th century. This structure is eligible for the National Register.

This fine example of a 2 ½-story Colonial Revival mansion has a number of interesting features, including Flemish bond brickwork, a slate roof with arched dormers, keystones over the 8-over-8 double sash windows, and a classically inspired entry with Ionic columns, a fanlight, and sidelights. The garden facade contains an unusual projecting one-story conservatory with 5 bays, each containing a pair of arched full-length windows. Above this composition is a Tudor-arched opening containing a traditional Palladian window. The interior has fine classically inspired and elaborate woodwork. The house is sited on a terraced knoll with commanding views of the Chesapeake Bay. Mount Pleasant farm was annexed by the City of Havre de Grace in July 1999. The house and surrounding 3 acres were placed under an MHT easement during the development of the Bulle Rock project.

5. *Stucco House (Lampson Property); property recently annexed, has not been documented*

This house is located east of Greenway Farm and can be accessed only through this neighborhood. The house is a 2 ½-story, gable-roofed stucco dwelling with twin end chimneys and dormers. The roof is slate and there are granite sills below each window. The house appears to date possibly from the early 19th century, but has been considerably altered over time. More research is necessary to determine if the structure is eligible for the National Register.

The facade has a recent 1-story, gable-roofed portico with broad proportions. The garden facade has an open porch off the second floor. This feature is supported by large rectangular brick columns that project through the porch floor and receive the balustrade. The entry to this porch consists of a pair of double doors framed by a transom and sidelights. This 2nd floor

also contains longer windows than the first floor openings, indicating that the 2nd floor could have been the original major floor of the house. Besides entry and porch changes, a long, 1-story wing has been added to the north end of the house, and the stucco could also be a later feature. There were several 20th century outbuildings on the site.

Preservation Approaches for Outlying Properties

Preservation for rural manor houses and their contexts need to be addressed at the time of annexation. Documentation through MHT and designation on the National Register of Historic Places is recognition of historical importance, however it does not protect historically important structures from alteration or demolition. Havre de Grace has had mixed results for retaining outlying historic structures, with some lost and some incorporated into new neighborhoods. Within the Residences of Bulle Rock, 2 manor houses – Mount Pleasant II and Blenheim – were protected and incorporated in the neighborhood design, with Mount Pleasant II being placed in an easement. On the other hand, the historic Cherry Hill Farm (Scenic Manor), Hokeland (Greenway Farms), and the Mitchell Farm on US 40 (Blenheim Run) have all been lost.

Given the proximity to I-95, many of the rural properties surrounding the City have been converted to more intense uses through development. As these prior farm tracts develop, strategies must be devised to preserve the integrity of the historic resources while acknowledging the possibility of some level of development on the properties. These strategies may include property owner education about rehabilitation tax credits for structural renovation, notification of the significance of their structures, solicitation of preservation easements, and development guidelines that preserve historic resources. It is also desirable to have outbuildings and some of the land surrounding the main manor houses preserved, so that the original historic setting or context can remain.

This is most significantly felt with Sion Hill. Its immediate context is a 23-acre property with several outbuildings and is heavily screened by woodland. Subdivision design and subsequent development adjacent to this magnificent structure must take into consideration the beautiful views and rolling terrain of this gentle summit and ensure a transition that honors the importance of this National Historic Landmark.

Donation of preservation easements, establishment of local district protection to outlying structures, and development guidelines which require clustering new development away from historic resources must be required at the time of annexation. This must be accomplished during the annexation process with Mayor and City Council and would require the fortitude of elected officials to require preservation of historic structures when a property owner petitions for annexation. It is a policy as outlined in this plan that the historic resources of these manor houses be preserved. In return for these preservation measures, new development designed to complement the historic resources could be allowed on the remaining acreage. The result would allow for the preservation of historic properties, while allowing additional development opportunities.

Cemetery Preservation

Cemetery preservation is often an overlooked aspect of land use and cultural conservation. Within its borders and nearby, Havre de Grace has a vast acreage of land devoted to burial grounds. These include the well-known sites such as Angel Hill Cemetery fronting MD 155/Ohio Street or St. James and Mount Erin Cemeteries on a high bluff overlooking the City. However, there are hidden cemeteries

that deserve attention and preservation that indicate a history that is largely invisible to residents, such as Cedar Hill Cemetery or the remnants of the earlier St. James Church site. These are all important places that need to be recognized and revered.

Cemetery preservation as part of historic preservation is important as these are cultural remnants of the citizenry that made this community. In summer 2022, Havre de Grace was the location of a Preservation Maryland training session on cemetery preservation, bringing their resources to bear locally on this important issue. Recent local efforts include creation of a community-based Memorial Preservation volunteer group working on African American cemetery preservation within the City to document burials, provide training, and bring professional resources for cemetery preservation into the forefront in Havre de Grace. They will be hosting the statewide organization, the Coalition to Protect Maryland Burial Sites, for a conference in Havre de Grace in 2024. That organization was formed in 1991 as a nonprofit organization of volunteers dedicated to protecting and preserving historic Maryland cemeteries that have too often been neglected or not maintained.

Goals and Actions

GOAL: Honor and protect the City's contributing structures so that they can continue to be a source of pride and community identity.

- Develop design standards for new development within the NRHD so that new development is compatible in scale and materials of existing historic structures and the fabric of the old town areas. Specific attention needs to be placed on building scale, setbacks that complement historic patterns, site configuration, parking, and view protection to develop specific requirements for infill development that would address street layout and design, pedestrian facilities, lot configuration, mix of uses, mix of housing types, scale, and density.
- Formally adopt the NRHD as the area for concentrated local historic preservation protections.
- Strengthen the demolition ordinance to prevent the razing of existing contributing structures in the historic areas of the City.
- Support the volunteer efforts of the Historic Preservation Commission members in their development of historic preservation strategies, educational and promotional material, and public outreach for the purpose of historic resource preservation.
- Educate the public about historic preservation tax credit programs offered through the State and Federal governments that are available for renovations to commercial and residential historic structures.
- Reevaluate the voluntary nature of the City's current Historic Preservation Ordinance.
- Educate business and property owners about the 2015 International Existing Building Code for the renovation of existing structures in keeping with their historic character.

- Develop incentives and/or regulations as a means of assuring protection and maintenance of historic structures in a historically appropriate manner (avoiding inappropriate materials, such as vinyl siding, shutters, windows etc.; preventing demolition and redevelopment). Examples of incentives include the continuance of the façade improvement program, local tax incentives, or tax assessment freezes for improvements. An example of regulatory protection is the establishment of a local historic district with design guidelines.
- Upon designation at a Certified Local Government, determine priorities for documenting structures within the City for inclusion in the Maryland Inventory of Historic Places and consider National Register nominations when they are nominated, as appropriate.
- Utilize the Maryland Certified Local Government Program Procedures Manual as the City's guidance document for procedures determining preservation legislation, survey priorities, nominations, and use of grant funding.
- Recognize the importance of researching and designating structures for inclusion in the National Register of Historic Places, such as recent listing of the Hirsch Residence (c. 1969, HA-2290) designed by Poldi Hirsch, which was researched by the Baltimore Architecture Foundation, Inc. in recognition of Women in Maryland Architecture. It is important to elevate documentation that is reflective of various eras, styles, and design talent.
- Continue to document the historic structures within Havre de Grace to update the existing inventory of resources.
- Concentrate preservation efforts on properties of high historic and public value while at the same time promoting historic preservation throughout the City's extensive NRHD.
- Continue to work with private property owners of the outlying farms to preserve the structures of historic value during subsequent development processes.
- Provide information to realtors about the historic significance of structures and rehabilitation tax credits, and generalized information about the historic significance of Havre de Grace.
- Consider neighborhood character and context resources during all infill development activity to be in keeping with the surrounding historic structures and to protect streetscapes and street trees. Special attention is needed for determining access locations in relation to sidewalks and road improvements.
- Educate the public on the value of the reuse of historic structures within the context of energy efficiency and climate change. The embodied energy of existing structures is advantageous as compared to demolition and building new, and that retrofitting existing structures with energy conservation methods is a strategy for decarbonization.

GOAL: Build on the heritage tourism value of the City's unique historic context as related to its location at the top of the Chesapeake Bay where overland transportation networks allowed for the earliest colonial route along the Atlantic seaboard.

- Continue to utilize the National Main Street program to assist the City in reaching its revitalization goals and to encourage historic rehabilitation and reuse of existing commercial structures within the downtown Main Street District.
- Capitalize on the 3 National Historic Trails that include Havre de Grace in their scope – the Captain John Smith NHT, the Star-Spangled Banner NHT, and the Washington-Rochambeau Revolutionary Route NHT.
- Capitalize on the concept of US 40 being conceived as America’s Main Street in 1929, as the nation’s east-west highway from coast to coast.
- Recognize the economic importance of historic preservation and develop marketing strategies that will benefit Havre de Grace in terms of heritage tourism.
- Continue streetscape improvements throughout the Main Street District and National Register Historic District.
- Develop historic plaques to identify and celebrate properties protected as Havre de Grace Landmarks and/or Districts.
- Re-institute the use of historic markers to identify buildings of significant historic value. This may be an opportunity for a partnership with a historic preservation advocacy organizations such as the Historic Havre de Grace Foundation.
- Continue marketing events and offer planning support to organizations whose mission is to provide historic and cultural interpretation, whether it be The War of 1812 initiative, Lafayette commemorations, Washington-Rochambeau Revolutionary Route, regional and national African-American history, or more local programs that make history come alive.

GOAL: Continue to be an invaluable historic and cultural hub within the Upper Bay Region.

- Support the staff and volunteers of the numerous museums in their work in interpreting local cultural history. Emphasize the educational importance of cultural museums in interpreting the City’s rich history and relaying the historical significance of Havre de Grace in relation to American history.
- Continue to support the operation of the Havre de Grace Visitor Center and other tourist outlets as resources for the distribution of educational materials regarding the historical and cultural assets of the City.
- Recognize the City’s rich multi-cultural history and support efforts for educating the public about the City’s diverse cultural heritage.
- Work with Harford County Public Schools to incorporate important local history into the public education curriculum as provided through existing museums and publicly-owned historic resources.

- Continue supporting Havre de Grace as a cultural center through museums, interpretive signs, and programs offered through museums and civic organizations.

GOAL: Properly honor the City's history through the care and keeping of those monuments to past citizens who are interred within its cemeteries.

- Work with the Coalition to Protect Maryland Burial Sites, Preservation Maryland, and the local Memorial Preservation group for building the capacity to properly care for burial grounds within the City. This includes general grounds-keeping and maintenance as well as proper headstone cleaning and repair. This may be done through volunteers or paid maintenance, depending on the cemetery site and structure of stewardship.

11. TRANSPORTATION: A FOCUS ON MULTIMODAL OPTIONS

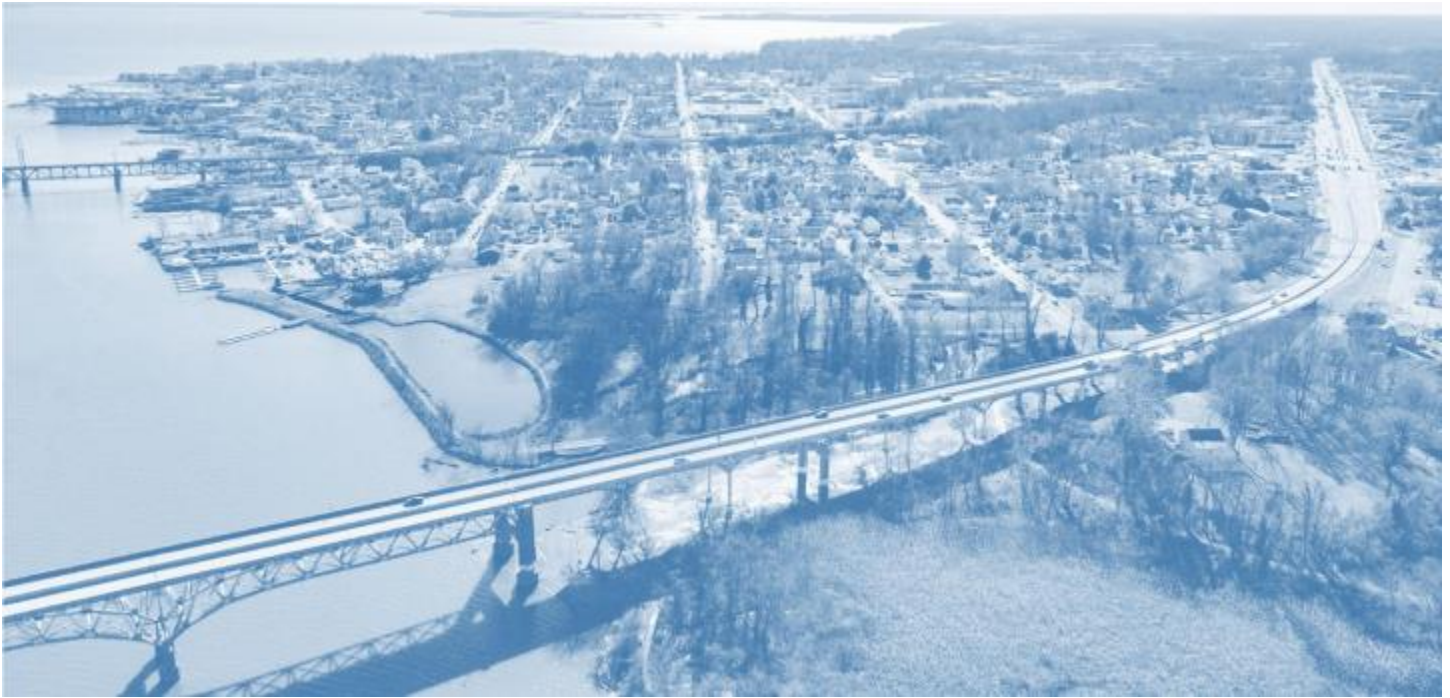


Image source based on Design Consultant: Moody Graham, 2023

A community is defined by its transportation networks, whether its close-knit streets and alley ways, major interstate routes, or port access and rail lines. Havre de Grace has all of these and they have shaped its place historically and as it has grown over time. Its early traditional grid street network was interrupted by the construction of US 40 as America's Main Street after the advent of automobiles. Water access made it one of the earliest points of settlement with a ferry system between eastern and western shores of Maryland and contributed greatly to its 19th century canal-era growth. Two major rail lines traverse the region along the edge of the flat coastal plain and I-95 demarcates the City's outer boundary, establishing Harford County's development envelope for limiting urban growth.

All of these transportation methods have shaped Havre de Grace, and the City's geography and resulting transportation network will continue to define it in the future. The railroads, but specifically Amtrak's Northeast Corridor, will play an outsized role in Havre de Grace in the next decade due to the replacement of the 1906 steel truss bridge that frames the entrance to the City's downtown Main Street and historic district. Construction for 2 new bridges is expected to take place over 10 years. In addition, the City's focus on alternative means of transportation, specifically bikeways and pedestrian connectivity, is intended to make the community more cohesive and supportive of healthy and necessary transportation options. Both of these emphasize the opportunity for true multimodalism in the Northeast Maryland region, where density along urban corridors through transit-oriented design is possible. This is all in support of smart growth principles and how communities can reduce dependency on automobiles by building in bikeways, better pedestrian connections, and other transportation alternatives.

In this chapter, types of transportation described include local and regional bus networks, development of bikeways and bicycle facilities, pedestrian sidewalk infrastructure, national rail connections, and road networks. Specific focus will be on sustainable, multimodal transportation which is becoming more prioritized in Havre de Grace, with efforts to grow pedestrian accessibility, establish bikeways, and capitalize on the City's relationship to rail, especially Amtrak's Northeast Corridor. This chapter will also touch on boat access and nearby airport facilities, both of which are unique

11. Transportation: A Focus on Multimodal Options

assets within the local area. Other topics will be covered such as parking, electric vehicle (EV) charging options, rideshare programs, transportation funding programs, and future trends.

Transportation improvement planning and funding require a significant effort on the part of City, county, and state agencies, with various departments at all levels of government involved in the maintenance and general oversight, planning, and capital improvements of the many modalities of transportation. These are not easy tasks and require a long-view to get a project from concept to design to construction. However, taking the long-view is vitally important to shape/reshape the public realm of urban mobility, thereby improving movement for everyone and ultimately creating a more livable built environment that is an equitable and inclusive space for all.

VISION: *To develop a true multimodal transportation system that serves all people’s needs and to expand the accessible, walkable character of downtown throughout the City to improve pedestrian, bike, and mass transit transportation options, reduce reliance on automobiles, and enhance the user experience of Havre de Grace.*

MAIN METHODS OF TRANSPORTATION

This section outlines the current main methods of transportation that exist in the City while envisioning how the City can improve accessibility and safety of all options, enhance the pedestrian experience, and provide better infrastructure and services. This will make Havre de Grace an accessible, connected, and safe community for all methods of transportation. Each section goes into detail about current circumstances and anticipated planned improvements. Havre de Grace is the beneficiary of attention by various local and state agencies whether it is through Harford Transit for successful and efficient local bus routing, Maryland Department of Transportation for bikeway planning, or Amtrak’s decision-makers and design team for rail bridge improvements. Havre de Grace has a great deal going on with regard to transportation planning and implementation.

MAJOR MODALITIES OF THIS SECTION INCLUDE:

- 1. Local and regional bus networks
- 2. Rail service
- 3. Sidewalks and pedestrian infrastructure
- 4. Bikeways and bicycle facilities
- 5. Road network, local and state

Transit

Local and Regional Bus Networks

Bus transit services are vital for the City since they can provide mobility options that connect to other networks such as rail, help offset congestion, and stimulate economic development. There are 3 bus services in Havre de Grace consisting of Maryland Transportation Administration (MTA), local Harford Transit LINK, and private Greyhound services for interstate travel. MTA commuter buses (the #420) serve US 40 communities in Harford County to downtown Baltimore at Johns Hopkins Hospital. This service begins and ends in Havre de Grace with 3 pick-up/drop-off locations and includes mid-day bus service from Baltimore to Havre de Grace for commuter needs. With a distance of approximately 33 miles to downtown Baltimore, residents of Havre de Grace are fortunate to have MTA service to this outlying area.

Local Bus Transit in HdG		
27 Stops for Harford County LINK (Green and Teal)		
3 Stops for Maryland Transit Administration (MTA)		
1 for Greyhound Service to Baltimore		
ROUTE	TIME	AREA SERVICED
Green No. 1	6 am to 9 pm	Links Havre de Grace to Aberdeen and Bel Air
Teal No. 5	6 am to 9 pm	Links Havre de Grace to Aberdeen, Perryville, and Perryman
MTA No. 420	5 am to 7 pm	Havre de Grace to Downtown Baltimore and Johns Hopkins Hospital
Greyhound	24 hrs	To Baltimore

Data Source: Harford County Transit Services (HC LINK) and Maryland Transit Administration (MTA), 2024

11. Transportation: A Focus on Multimodal Options

The Harford Transit LINK Green 1 and Teal 5 bus service is provided through Harford County Transportation Services (HCTS) throughout the county and municipalities of Aberdeen, Bel Air, Havre de Grace and Perryville in Cecil County. Operating through the Department of Community Services, this local bus service offers intra-county transit between and within the major population centers and route destinations of Abingdon, Bel Air, Edgewood, Havre de Grace, Joppatowne, Perryman, as well as Perryville, with Aberdeen as its transit hub. Connections to Perryville provide the only intercounty transit offered over the Susquehanna River, connecting communities and employment centers in Cecil County with area residents. This service operates hourly during the week with 27 local pick-up/drop-off locations. HCTS also provides ADA Paratransit/Demand Response service for individuals over the age of 60 and anyone with a mobility disability.

As Harford County's transit hub, the Aberdeen train station is critical in providing a location for true multimodal transportation, including being a transfer center for various Harford Transit LINK bus routes. Connections to other communities and both MARC and Amtrak rail services are made via Aberdeen. Often, LINK buses can be seen at the end of the ramp along Aberdeen Blvd awaiting transfers, illustrating its importance as a transit hub.

Harford Transit LINK services have been expanded and made more efficient within the past 5 years, with extended hours to better serve the needs of transit-dependent residents. The Green 1 Line is one of the highest use bus routes and operates both east- and westbound, creating in essence a circulator for locals for short distances, making it more cost effective for HCTS and useful for local residents. The addition of the Teal 5 line focuses on employment centers along US 40 and traverses the Susquehanna River to Perryville and employment centers there, such as IKEA and the new 700-room Great Wolf Lodge which opened in 2023 at the I-95/MD 222 interchange in Perryville.



Harford Transit LINK Green 1 and Teal 5 buses operate in the City.

A bus shelter program offered through HCTS is currently being pursued to meet the City's vision for transit improvements for residents. Coordination with State and County government is required to provide installation of bus shelters and passenger amenities at priority locations and ultimately throughout the whole City to serve both MTA and HCTS customers. City staff are evaluating sidewalk connections and state and City rights-of-way for accommodating bus shelters.

HCTS also provides commuter assistance for employees for carpooling and van pooling in addition to Maryland Department of Transportation (MDOT) Guaranteed Ride Home (GHR) program, which provides up to 4 free rides home from work per year for commuters who regularly bike, walk, rideshare, or take bus transit to work. This further incentivizes alternative methods of transportation by providing assurance home from work.

Private interstate Greyhound bus service has 1 pick-up location in Havre de Grace at MD 155/Ohio and Ontario Streets. This is a part of German brand FlixBus national commercial transportation company with 2,300 destinations across the US, of which Greyhound Lines is a subsidiary. These services are intended to be a convenient and affordable way of travel with a network of stations in major US metropolitan areas.

Actions for Local and Regional Bus Networks

- Continue to support Harford Transit LINK and MTA in providing bus service in providing bus systems that link critical services with people most in need of public transportation, with extension of local bus service to newer neighborhoods on the west side of US 40 to serve entirety of the community.

11. Transportation: A Focus on Multimodal Options

- Coordinate with Harford County Transit Service, MTA, and MDOT SHA for installing desired bus shelters within City and state rights-of-way that are responsive to the local architectural character.
- Advertise available bus transit resources and its efficient network within this region, specifically as related to access to Amtrak rail in Aberdeen and Perryville and employment centers in the region.

Rail Service

Within the immediate vicinity of Havre de Grace, there is excellent access to rail service for both regional and national passenger destinations, with stations 3 miles away in Perryville and Aberdeen. Both stations are owned by Amtrak and offer MARC Commuter Rail Service to Baltimore and Washington, D.C. Amtrak regional rail offers passenger service out of the Aberdeen station with 7 day service for longer distance rail travel. This region is part of Amtrak's Northeast Corridor (NEC) which provides daily long-distance rail service throughout the US along with high-speed service from Boston to Washington, D.C. A focus on rail is key to the future of this region.

MARC Commuter Rail Service provides weekday commuter service from Perryville and Aberdeen to Baltimore's Penn Station, Baltimore/Washington International (BWI) Thurgood Marshall Airport, and Washington, D. C. The opportunity created by these connections for regional, national, and international travel cannot be overstated, and both Aberdeen and Perryville have focused efforts on transit-oriented-development, or TOD, to maximize this potential. The City of Aberdeen continues to make improvements to the station's facility and grounds, providing a major point of transfer between local Harford Transit LINK bus service as well as rider pick up/drop off. Perryville's historic 1905 station is the end of the MARC Penn line currently, however MARC service may be extended to Newark, DE in the future where it would connect with SEPTA Regional Rail¹ in Delaware and into the Philadelphia region. The MARC Growth and Transformation Plan is currently underway by MDOT MTA for developing strategic priorities for systems and the capital investments needed for the future of MARC train service.²



Built in 1943, the Amtrak/MARC passenger station in Aberdeen was designed by architect Lester C. Tichy.



Online image of MARC train crossing the Susquehanna River.

Serving as the primary multimodal hub for Harford County, the Aberdeen station is located along Pulaski Highway and has a total of 189 commuter parking spaces. Plans for bike connectivity via a grade-separated bike and pedestrian path between Havre de Grace and Aberdeen would greatly expand the station's non-motorized connectivity. The

¹ Article from Delaware Business Now, April 16, 2023, <https://delawarebusinessnow.com/2023/04/maryland-inks-deal-with-delaware-aimed-at-bringing-marc-trains-to-newark/>

² <https://www.mta.maryland.gov/marc-growth-plan>

11. Transportation: A Focus on Multimodal Options

Baltimore Metropolitan Council (BMC) led an initial concept study on this bike path in 2022-23 and extending the design to engineering is anticipated with Harford County's support. Long-term bikeway connections between the 2 municipalities is desired for those who do not have or choose not to use cars. This is especially important for making alternate transportation easy for everyone and in consideration of climate change.

Rights-of-way and track infrastructure for Amtrak and CSX pass through Havre de Grace, both in a northeast-southwest direction, paralleling other transportation corridors of US 40 and I-95 through the region. Three railroads operate on the Amtrak line, including Amtrak and MARC passenger service and Norfolk Southern Railroad for freight. The Amtrak Penn line runs east of US 40 and has no at-grade crossings in the Havre de Grace planning area. A spur line off the Amtrak main line serves the Evonik Corporation and the Chesapeake Industrial Park and has at-grade crossings on Clark Road, Old Bay Lane, Seneca Avenue, Revolution, and Juniata Streets. The CSX line, paralleling US 40 to the west, has 4 at-grade crossings within Havre de Grace, with gated crossings at Ontario Street Extended and Lewis Lane, a narrow underpass at the Bulle Rock Golf Course and an overpass/bridge at Greenway Farms. There are no spur lines with CSX.

Major rail infrastructure improvements along Amtrak are being funded through the Federal Rail Administration³ for NEC reliability and service quality, and these improvements include the replacement of the 1906 Susquehanna River steel truss rail bridge here in Havre de Grace. This project completed NEPA (National Environmental Policy Act) review in May 2017 and received a Finding of No Significant Impact (FONSI) after coordinating a robust Programmatic Agreement with local jurisdictions and the State Historic Preservation Officer (SHPO). Engineering was slowed as a result of the COVID pandemic but has been accelerated since with increased attention at the national level for large-scale infrastructure focus and funding. City staff are working closely with Amtrak representatives and their engineers for the Susquehanna River Rail Bridge Project (SRRBP) to ensure design compatibility within the City. Construction kick-off occurred in July 2024 and remnant pier work began during that same time period.



Amtrak's conceptual image of the 2 new bridges across the Susquehanna River from Havre de Grace to Perryville.

Two new fixed bridges will be constructed to replace the existing Amtrak bridge, each having 2 tracks which will relieve a major bottleneck on the NEC. Construction is anticipated to begin in 2026 after completion of engineering design, removal of 1866 remnant piers, and lead-up track construction; construction on the 2 new bridges is expected to take up to 10 years. City planning staff are working through Maryland Department of Transportation (MDOT) to explore the feasibility of a third separated span to allow bicycle and pedestrian access across the Susquehanna River between Havre de Grace and Perryville, a concept that has been supported by Amtrak and MDOT. A bicycle/pedestrian

³ <https://media.amtrak.com/2023/11/amtrak-awarded-federal-funds-for-12-projects-of-national-significance-totaling-nearly-10b-across-americas-busiest-rail-corridor/> and

<https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/06/fact-sheet-president-biden-advances-vision-for-world-class-passenger-rail-by-delivering-billions-in-new-funding/>

11. Transportation: A Focus on Multimodal Options

crossing in this area would allow for a non-motorized connection between multiple jurisdictions along a historic and populated transportation corridor, adding game-changing improvements for multimodalism that reduces automotive dependency. This river crossing trail initiative is identified in MDOT's Statewide Bicycle and Pedestrian Master Plan.

"A walking/biking means of crossing the river would be absolutely wonderful."

– Comprehensive Plan 2022 StoryMap Survey Response

Beyond the construction of 2 new bridges, there are additional efforts for a long-term vision and investment program for the NEC. This initiative is called *NEC Future* by the Federal Rail Administration (FRA) which issued a Record of Decision in 2017, marking the completion of a Tier 1 environmental review process. The far-reaching proposals will guide investment for the NEC in the future.⁴



Image from project presentation, February 2024.

Design

Streets and Traffic Overview

- Lewis Lane Bridge
 - New single-span structure
- Otsego/Union Ave (MD-7A) Improvements
 - Improved geometry/viewshed
 - Utilities Relocated underground
 - New Stormwater Infrastructure
 - Bike Lanes supported
- Juniata, Adams, Warren, Stokes Streets and Bridges
 - Access for Utility and Railroad Bridge construction activities



Lewis Lane Bridge

Illustrative Rendering of the Otsego/Union Avenue Improvements



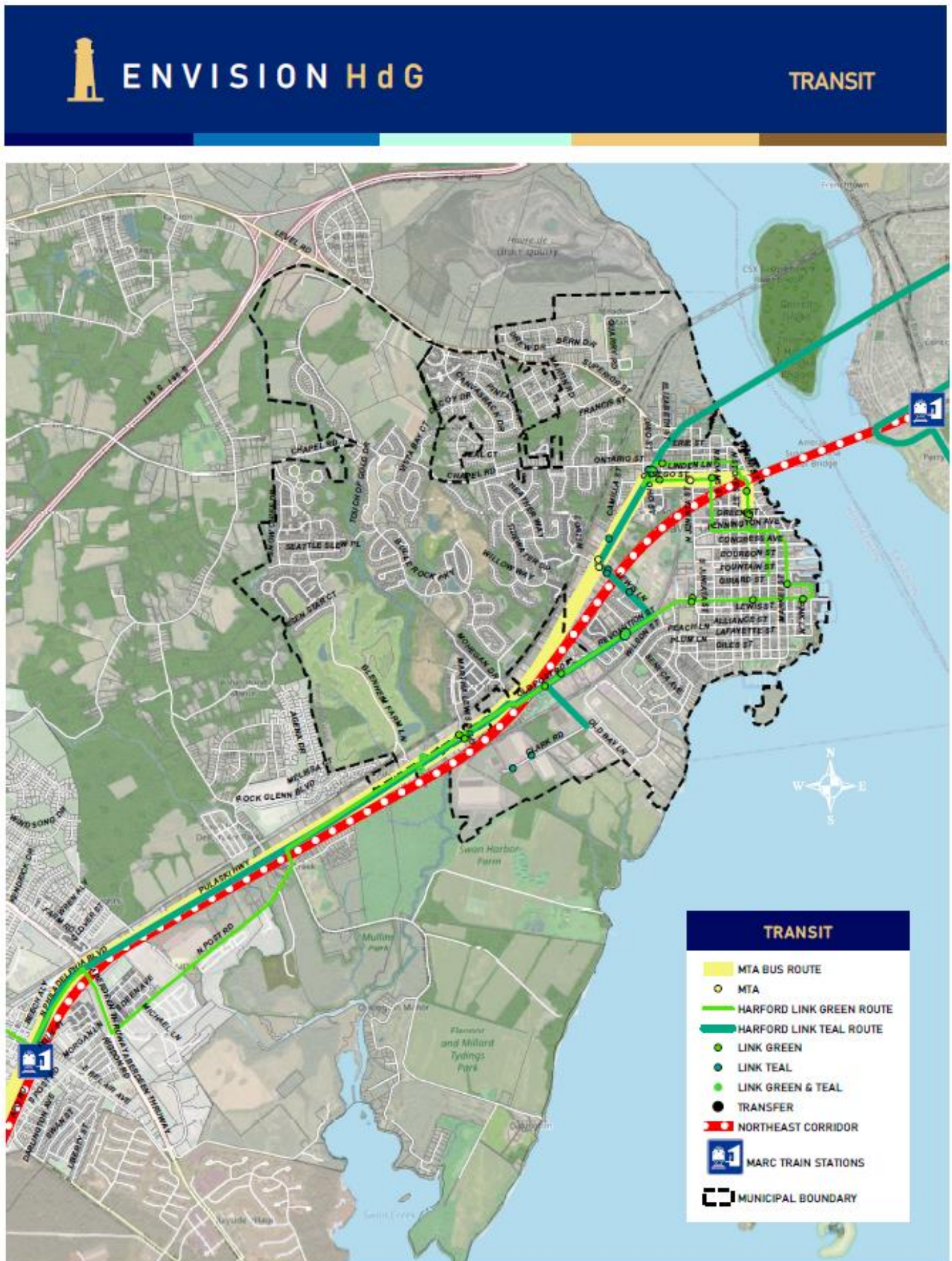
Susquehanna River Rail Bridge Project - Perryville/Havre de Grace, Maryland



Proposed Amtrak redesign of Otsego and Union Avenue roadway and street impact overview from public presentation, February 2024.

The **Transit Map** shows the relationship of the City within the context of bus and rail transit regional access.

⁴ Please see <https://nec-commission.com/connect-nec-2035/> or <https://www.fra.dot.gov/necfuture/> for information.



Actions for Rail Service

- Maximize the opportunity for MARC and Amtrak rail between the Aberdeen and Perryville stations and support both municipalities' efforts for transit-oriented development. The success of climate action is based on alternative modes of transportation and rail specifically is highly efficient per mile traveled with regard to fossil fuel emissions.
- Recognize the value of being located along the Northeast Corridor for Amtrak and MARC services to have access to major metropolitan regions while avoiding highway travel.
- Continue to advocate for a MARC station within the City to serve the citizens of Havre de Grace directly. This has been an ongoing desire for over 2 decades and was specifically addressed in communication with the Amtrak design team early in their alternatives analysis through the Susquehanna River Rail Bridge Project Advisory Board, which was a representative group created to communicate on behalf of the City for initial design of this significant federal project.
- Continue to work with Amtrak, their project team, and MDOT on the design and construction phases of the Susquehanna River Rail Bridge Project, with construction anticipated to begin in late 2025/2026 timeframe and which will take 10 years to complete.
- Work with CSX freight rail for the safety of their underpasses and grade crossings within the City, specifically at Blenheim Lane and at MD 155 at Ohio and Superior Streets, to reconfigure their structures for improved vehicle safety. Work with CSX to expand/reconfigure their stone-arch bridge structure at the bottom of MD 155 to eliminate the site distance problem that creates a safety hazard at this challenging intersection.

Active Transportation

Active transportation refers to any mode of human-powered movement, primarily walking and biking, used for travel and transportation purposes. This section highlights the importance of providing safe options, whether to access employment, facilities, or commercial areas or for health and recreation. Providing options for how to get around, these networks are critical for quality of life in any community. In this section, there is a focus on shared use pathways for creating a vibrant active transportation network, so you will often see bicycle and pedestrians referenced together. These shared use pathways are intended to serve pedestrians, cyclists, wheelchair-users, and others with scooters, e-bikes, e-scooters, etc. Havre de Grace is primed to expand active connections throughout the City – with an eye to new emerging neighborhoods -- in order to make the City fully walkable and, ideally, bikeable.

Sidewalks and Pedestrian Infrastructure

Sidewalks are key to a vibrant City life, serving as both social and economic conduits for pedestrian traffic. Havre de Grace is a “Very Walkable” community according to Walk Score, ranking 85/100⁵, meaning that most errands can be accomplished on foot and that residents have access to nearby local parks. Pedestrians enjoy a nearly complete sidewalk system that connects the historic downtown along with connections to several art and cultural trails for hiking and biking. Safe and well-maintained sidewalks are a basic and necessary investment for cities, and thoughtful sidewalk design can encourage pedestrian traffic by making it more attractive and functional. In today's world, people are increasingly more active and seeking out places to bike, hike, and walk which, in turn, results in a more health and

⁵ <https://www.walkscore.com/score/havre-de-grace>

11. Transportation: A Focus on Multimodal Options

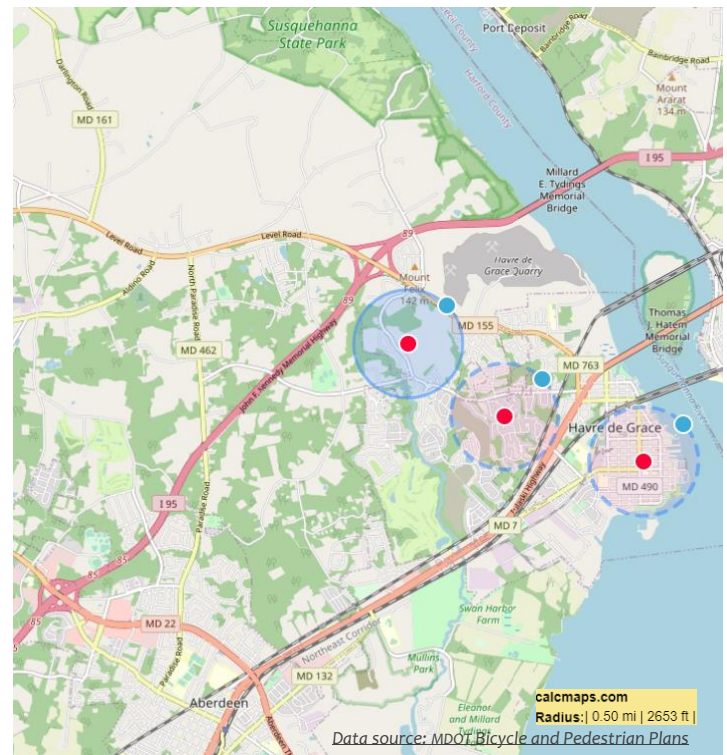
fitness-focused community. Pedestrian mobility goes far beyond the traditional vehicle to a more connected pedestrian network integrated with adjacent land uses.

Sidewalks are installed throughout most of the City's Old Town residential neighborhoods, Waterfront, and Main Street Districts, making these historic areas very pedestrian-friendly. However, some of the major streets that link the residential areas with destinations such as the Chesapeake Industrial Park, Stancill Park, and Havre de Grace Middle/High School complex do not have complete pedestrian connections, including safe crosswalks. These links need to be implemented over time through the City's DPW capital improvements or with SHA so that full pedestrian accessibility is achieved.

DPW and planning staff are currently undertaking a comprehensive sidewalk inventory of all pedestrian assets within the City. This is intended to show the gaps, needs, and shortfalls of the City's current pedestrian system including, but not limited to, ADA accessibility, incomplete sidewalk connections, and crosswalks in need of visibility enhancements or signalized pedestrian crossings. A focus on safety, accessibility, and connectivity are the overriding themes for this review, which was completed in the fall of 2023 for the land area east of US 40, the City's designated Sustainable Community. Staff will continue with the sidewalk inventory west of and including US 40 for full city-wide connectivity. Integrating US 40 as Complete Streets connector will advance the City's goal of unifying the historic downtown with newer neighborhoods west of US 40. Also, as the City implements its bus shelter program in concert with HCTS, fully-accessible sidewalk connections are required to connect all transit infrastructure. This inventory will inform the capital funding program needed for pedestrian connections and address them as funds allow. The City's DPW will continue its annual sidewalk maintenance program to ensure that existing pedestrian facilities are passable.

Newer neighborhoods west of US 40 present a challenge for interconnectivity between neighborhoods and the Old Town areas of the City. Though sidewalks have been required in most new communities during the development process, some older existing neighborhoods, such as Havre de Grace Heights and Meadowvale, do not have them installed. Retrofitting pedestrian access in those instances may not be practical.

However, there are opportunities along Chapel Road where short sidewalk links or grade-separated pathways could serve to connect large neighborhoods. As areas continue to develop, planning for interconnections is extremely important at the site plan review stage. The Bulle Rock community is one success where an integrated shared-use pathway threads throughout the neighborhood which, in turn, can be linked to other neighborhoods such as Scenic Manor where a grade-separated pathway already exists along Chapel Road. Future bike/pedestrian connections are critical when planning new neighborhoods and commercial areas closer to the I-95/MD 155 Interchange. By allowing residents to walk or bike for short trips, these interconnections serve as important links between neighborhoods, community facilities, and the LSHG as well as providing greater community cohesiveness.



This image shows a .5 mile radius as a visual reference to the range of a 15-minute walk. Data Source: <https://www.calcmaps.com/>.

Heritage Corridor Signature Sidewalk (Waterfront Walkway)

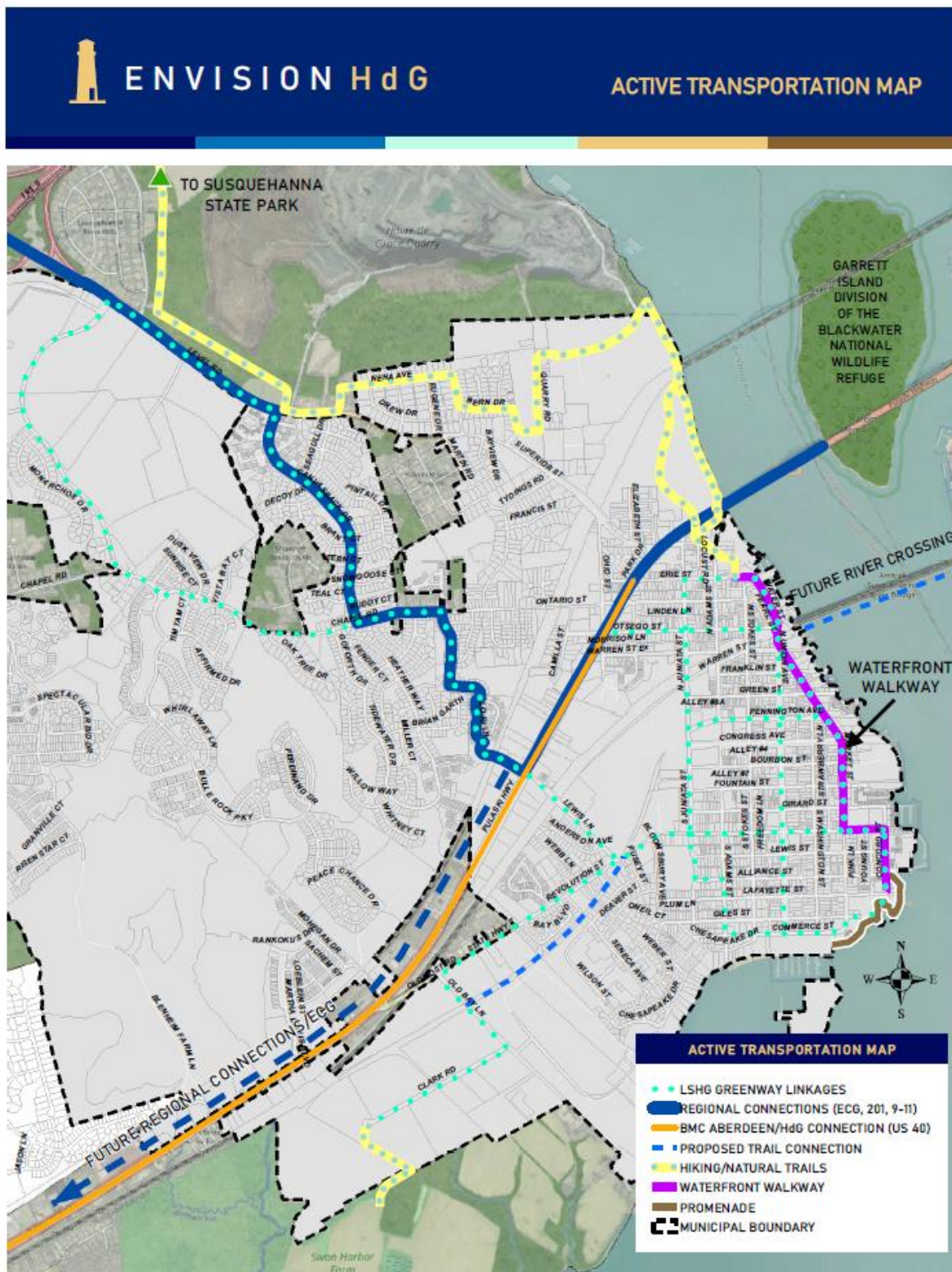
Great emphasis has been placed on the development of a complete waterfront brick-ribbon signature sidewalk, which is intended to link North Park and the Lock House Museum, the downtown Main Street District, the Promenade and Concord Point Park with the City's numerous cultural amenities. While many segments have been completed, sections along Water, Erie, St. John, Market, and Revolution Streets are still unfinished. Priority will be placed on sections where no pedestrian access is currently available. This waterfront signature sidewalk concept was developed in 1997 with the Heritage Corridor Management Plan and has been incrementally implemented ever since. A more complete description and map can be seen in Chapter 5, *Relationship to the Lower Susquehanna Heritage Greenway*.

Actions for Sidewalks and Pedestrian Infrastructure

- Identify and fill sidewalk gaps throughout the City, including but not limited to connections along US 40 and newer neighborhoods west of US 40.
- Continue to implement the signature sidewalk, trail, and pedestrian connections that are identified within the LSHG, to include a safe river crossing as stated in the bikeway actions.
- Conduct an evaluation of the physical and other barriers in the public rights-of-way and plan for removal of those barriers to ensure ADA accessibility.
- Develop a master map that catalogs existing sidewalks, trails, bike paths, and other transportation networks within the City so that planning staff and local stakeholders can identify gaps in and ways to improve pedestrian mobility and safety between parks and recreational nodes to residential communities.
- Develop concepts for pedestrian connectivity and shared use pathways from Bulle Rock and newer developments into the downtown/Old Town areas along Chapel Road/Ontario Street Extended and/or Lewis Lane to create a fully integrated, walkable community.
- Develop safe pedestrian connections and shared use pathways to the Greenway Farm neighborhood as adjacent development occurs, specifically the Lampson Property. Currently, children and teens are utilizing the CSX railroad right-of-way as to access other neighborhoods and school facilities in the area and across US 40.
- Provide a separated bike/pedestrian bridge at the Gasheys Creek stream crossing on Chapel Road Bridge east of Bulle Rock to provide safe crossing that connects the asphalt path at Scenic Manor with future bike/pedestrian connections along Chapel Road.
- Work with the Maryland Department of Transportation in partnership with the LSHG and adjoining municipalities for the establishment of a bicycle/pedestrian Susquehanna River crossing that not only benefits the local communities but the broader region and the nation. This would provide the shortest distance and only safe active transportation link between Maryland's Eastern and Western Shores.
- Incorporate high comfort, public shared use pathways along Bulle Rock Parkway north of the traffic circle and through emerging developments to fully extend the opportunity for safe, active modes of transportation to the MOE. These identified connections are part of the LSHG which is more fully described in Chapter 5, *Relationship to the Lower Susquehanna Heritage Greenway*.

11. Transportation: A Focus on Multimodal Options

The **Active Transportation Map** shows the combined network of natural trails, bikeways, and waterfront signature sidewalk connections that form the basis of the City's active transportation network that is being pursued to provide recreational benefits to citizens as well as, ideally, reducing the need for automobiles within town. The City will work to mark these linkages with appropriate signage and make the connections complete.



Bikeways and Bicycle Facilities

Havre de Grace has always been relatively bike-friendly just because of the scale and speed along its road system, especially in the historic areas where cyclists safely share the road with vehicles. There has been very limited focus on bicycle infrastructure, such as marked bike lanes. This is about to change with the City's successful grant applications for a bikeway feasibility study and a quick-build bikeway retrofit project for the downtown historic area. These grant applications were awarded in the fall, 2023 through MDOT's Kim Lamphier Bikeways Network Program.

These bike-focused grants build on past concepts of downtown bike loops and a connecting link between the old town and newer communities as identified in prior comprehensive plans. In addition, the Baltimore Metropolitan Council (BMC) in partnership with Harford County led the development of the first stage of a *Concept Plan for Bicycle and Pedestrian Improvements along US 40* between Aberdeen and Havre de Grace in 2022-23. The need for bike and pedestrian infrastructure is becoming more forefront – locally, statewide, and nationally – for creating alternative modes of transportation, especially in higher density communities. This focused attention is greatly needed to reduce vehicle miles traveled, i.e. for reduction of fossil fuel use, as a means of climate action.

Through the Departments of Planning and Public Works, the City will focus its efforts on developing bike routes through the grants that were received so that actual installation of bike route improvements occurs. Two parts to these grants include: 1). making the downtown routes identifiable with signage, stenciling, and other route makings which are to be determined through consulting services and the development of an implementation plan and 2). examining the feasibility of on-and off-road improvements for bikeway connections beyond the historic downtown, to include the use of a rail spur to Clark Road and design development for successful linkages from the older portions of town to newer communities. These implementation grants are to make identified bike routes 1, 2, and 3 complete. As represented on the bikeways network map, these interconnected routes are as follows:

Route 1: Old Town/Downtown Loop. This on-road loop primarily traverses streets in the historic portions of the City linking the waterfront, Main Street District, and cultural attractions.

Route 2: North Park Loop. Located along the north shoreline of the City, this is a hiking/biking trail within a natural setting, incorporating the Lock House Museum and connections to the LSHG trail system to the north.

Currently, Havre de Grace is a “somewhat bikeable” community according to a Walk Score of 65/100.

(<https://www.walkscore.com/score/havre-de-grace>)

According to the League of Bicycle Friendly America, Maryland ranks 14/50 for being bike friendly according to a 2022 survey-

(<https://bikeleague.org/wp-content/uploads/bfareportcards/bfs/2022/maryland.pdf>)



Data Source: MDOT Bicycle Accessibility Map Application, 2023. This interactive maps shows the Level of Stress for on-road cyclists, one tool for analyzing opportunities.

11. Transportation: A Focus on Multimodal Options

Route 3: Old Town/New Town Bikeway. This bikeway serves to connect older portions of the City with the newer neighborhoods west of US 40, linking civic activities, the waterfront, and historic commercial areas with large development areas along Chapel Road. Portions of this connection are part of the ECG.

In addition, other opportunities for bike improvements are shown on the network map, such as Pennington and Union Avenues, which will be considered within the broader implementation through the minor retrofit grant. As of 2023, staff with the Department of Planning are also coordinating with Bel Air and Aberdeen on a Safe Streets for All (SS4A) grant as a shared street safety Action Plan and with a focus on intersections requiring safety improvements.

Over the past decade, inter-connectivity of the region has become forefront with regional and national trails converging, such as the ECG, September 11th National Memorial Trail, US Bike Route 201 (USBR 201), and the LSHG. The ECG in particular has been very successful in installing signage for identifying their route through this region, reaching Pennsylvania, Delaware, and Maryland communities, and one can see their route identified through Havre de Grace from the Thomas J. Hatem Memorial Bridge at US 40 to Lewis Lane, Grace Manor Drive, Chapel Road, to MD 155 and beyond.

“Envisioning life in a town where cycling and walking become the norm.”
-- Quote from a resident within the region

11. Transportation: A Focus on Multimodal Options



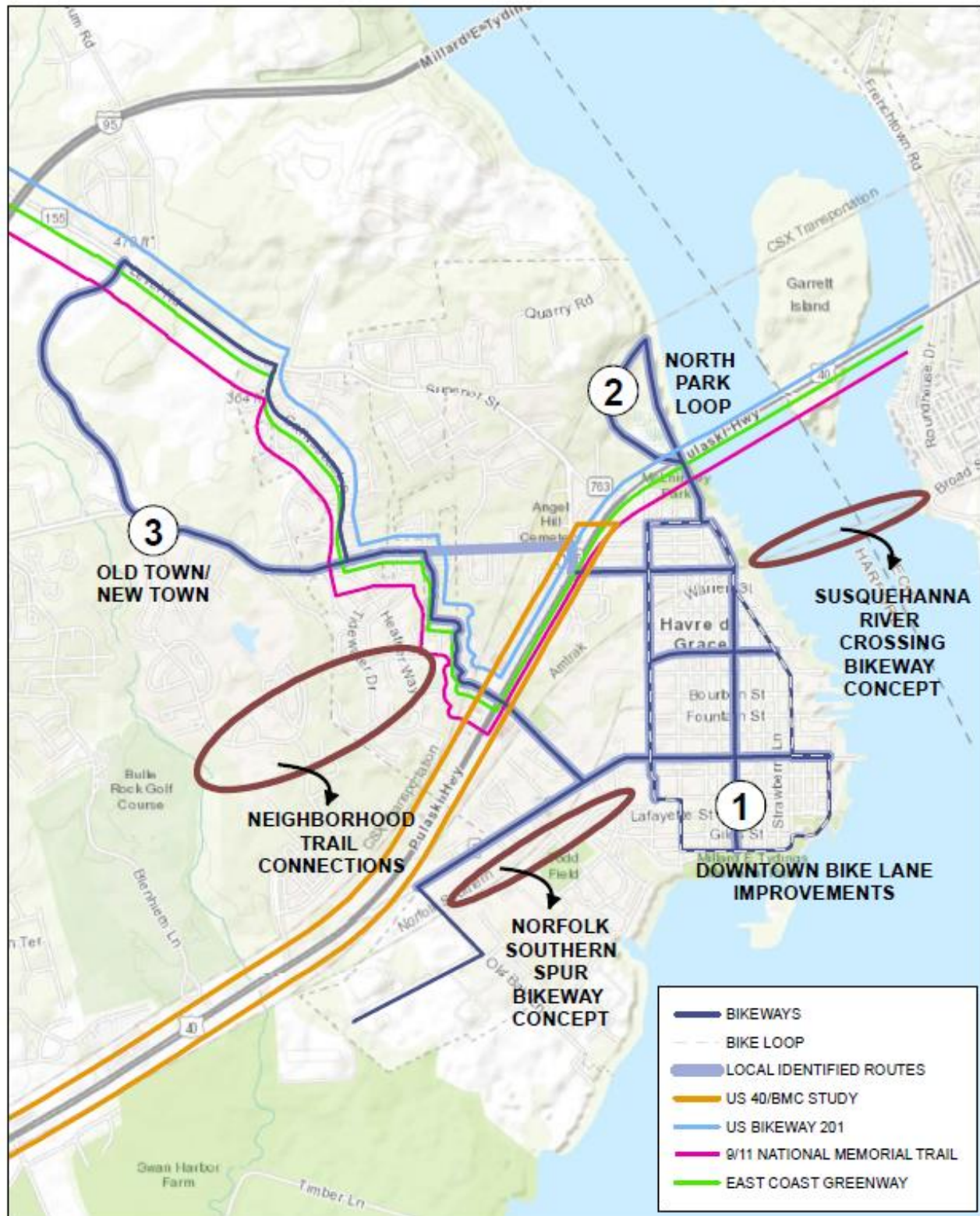
Concept from Toole Design Group for Downtown Revitalization Plan, 2022

The Toole Design Group's Downtown Restoration Plan of April 2022 identified active transportation opportunities as part of their discovery process. Outside of the Downtown Restoration, they mirrored the main trunk network of grid streets that are shown in the City's Old Town/Downtown Loop (Route 1). They noted that "the benefits of providing more options for efficient travel without relying on personal automobiles will not only improve parking management objectives, but also vastly enhance the ability of the street grid's capacity to handle large events and increased tourism.

By promoting the development of these Alternative Transportation Networks, Havre de Grace can efficiently accommodate increased demand for access to the Downtown Business District.

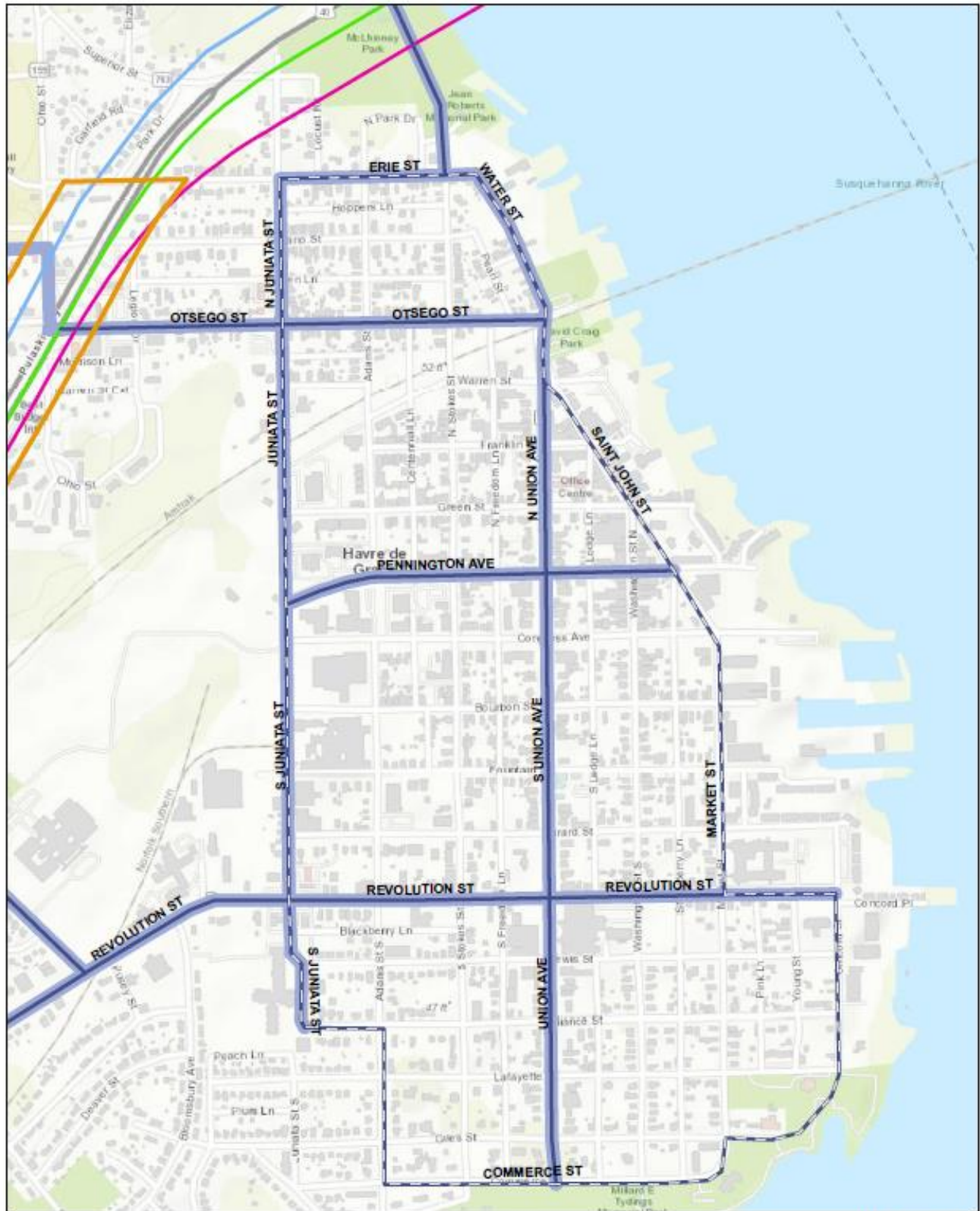
-- Havre de Grace Restoration Plan, April 2022

HAVRE DE GRACE BIKEWAYS NETWORK



Please note multiple efforts for bikeway connections through Havre de Grace with the September 11th National Memorial Trail, East Coast Greenway, US 40 Concept Plan for Bike and Pedestrian Improvements, and Rail Spur and River Crossing studies.

11. Transportation: A Focus on Multimodal Options



AUGUST 2024

These 2 bikeway maps are to be used to show broad concepts of bikeway connections throughout the City, linking the historic portions to the newer communities within Havre de Grace as well as connections to the region beyond City-limits.

11. Transportation: A Focus on Multimodal Options

As part of Maryland's statewide Bike Spine Network, US 40/Pulaski Highway is the only road that is currently identified on-road as a bikeway with share-the-road signs, pavement stenciling, and route signage. Use of the shoulder lanes for bikes is accepted and provides a level of recognition for the highway to be utilized as a bike route, however only the most seasoned cyclists or citizens with limited transportation choices brave this 4-lane highway. The BMC in partnership with Harford County initiated a *Concept Plan for Bicycle and Pedestrian Improvements along US 40* between Aberdeen and Havre de Grace to explore a grade-separated bike and pedestrian path between the 2 municipalities. Continued study and design work for this pathway is greatly desired to fully realize the potential for short-trip transportation options between these 2 centers of residential and employment activity.

The 1940-era Thomas J. Hatem Memorial Bridge for US 40 has been opened to bike traffic since 2016 as a result of a public outcry for a Susquehanna River crossing during the NEPA process for the SRRBP. Though not ideal, the US 40 bridge is opened on weekends for cyclists to traverse the river between Cecil and Harford Counties, with bikes taking up a full lane and a flashing overhead light warning drivers about in-route bikes on the bridge. Ideally, this solution is temporary as it is unsafe and very limited to only the most seasoned cyclists. Exploration of the feasibility for a true Susquehanna River bicycle and pedestrian crossing that is safe for all ages and abilities is a goal, making this region a beacon of multimodal transportation success.

To support and encourage more bicycling and walking as a means of transportation, sufficient and safe facilities must be provided throughout the City. The goal is to create a bicycle and pedestrian plan for improving alternative methods of transportation within the City as a whole, applying the Complete Streets⁶ approach that integrates safe and accessible lanes separate from but in addition to sidewalks. Ideally, Havre de Grace will be designated a 'Bicycle Friendly Community' by working with Bike Maryland and Bicycle League of America to attain community certification. This goes beyond recreation to promote a bike to work, school, and shop initiative that will continue to attract people of all ages and abilities to Havre de Grace.

Concept Plan for Bicycle and Pedestrian Improvements along US 40, Baltimore Metropolitan Council

A linear corridor is being proposed by Harford County and the Baltimore Metropolitan Council parallel to US 40 in its right-of-way, connecting Aberdeen and Havre de Grace in order to provide a safe, accessible, and grade-separated shared-use biking and pedestrian path. This would provide non-motorized transportation options between the 2 cities, linking area residents to employment, shopping centers, health facilities, and transportation hubs, such as the Aberdeen train station. This concept development project is to support a mixed-use corridor that's focused on transit oriented development for promoting connectivity.



Image from the Concept Plan for Bicycle and Pedestrian Improvements along US 40.

Actions for Bikeways and Bicycle Facilities

- Work with the BMC and MDOT SHA to provide safe, high comfort pedestrian and bike connections along US 40 as begun in the Concept Plan for Bicycle and Pedestrian Improvements along US 40 by the BMC in 2022. This study is currently concept-only and next phase would include the determination of a chosen alternative with locations for US 40 crossings and provide 30% design, with later phases ideally progressing design to construction.

⁶ For more information on Complete Streets, please see: <https://smartgrowthamerica.org/what-are-complete-streets/>

11. Transportation: A Focus on Multimodal Options

- Successfully administer current bikeway grants through MDOT Kim Lamphier Bikeways Network Program for 1). Feasibility and design and 2). Quick-build and bike path design, both achieved in fall 2023. These grants are for limited installation for projects within the Old Town area and bike network planning between the older community east of US 40 and the newer neighborhoods west of US 40.
- Through the above-mentioned grants, develop concepts for bike and pedestrian connectivity from Bulle Rock and newer developments into the downtown/Old Town areas along Chapel Road/Ontario Street Extended and/or Lewis Lane (currently marked for the East Coast Greenway). Creating multiple bike loop options benefit the entire City by linking communities across the physical divide of US 40.
- Provide a separated bike/pedestrian bridge at the Gasheys Creek stream crossing on Chapel Road Bridge east of Bulle Rock to provide safe crossing that connects the asphalt path at Scenic Manor with future bike/pedestrian connections along Chapel Road.
- Work with Harford County and adjoining property owners for creating successful active transportation improvements in identified areas for bikeway concepts that are developed through design.
- Work with the Maryland Department of Transportation in partnership with the LSHG and adjoining municipalities for the establishment of a bicycle/pedestrian Susquehanna River crossing that not only benefits the local communities but the broader region and the nation. As per Chapter 5, *Relationship to the Lower Susquehanna Heritage Greenway*, this is a concept that was identified as early as 2000 in the LSHG Management Plan and would provide the shortest distance and only safe active transportation linkage between the Eastern and Western shores of Maryland.
- Incorporate high comfort, public pedestrian and bikeway connections along Bulle Rock Parkway north of the traffic circle and through emerging developments to fully extend the opportunity for safe, active modes of transportation to the MOE. These identified connections are part of the Lower Susquehanna Heritage Greenway (LSHG) which is more fully described in Chapter 5, *Relationship to the Lower Susquehanna Heritage Greenway*.
- Provide high comfort pedestrian and bike access from the downtown/Old Town areas to Swan Harbor Farm from Clark Road in the Chesapeake Industrial Park, also part of the LSHG greenway network. Work with industrial businesses along the Norfolk Southern rail spur located south of MD 7/Revolution Street to potentially make a safe side-path along this limited-use rail spur that may provide an alternative to on-road bike access on MD 7/Revolution Street.
- Recognize the opportunity for supporting bicycles as a means of transportation and recreation within the City with the identification of slow streets and the ability to retrofit safe bike infrastructure. Continue bikeway planning as depicted within the maps in this transportation chapter.
- Develop a consistent signage program for bikeways when improvements are completed.
- Expand the City's micromobility options through public/private partnerships by making shared e-bikes and e-scooters more publicly accessible and available for residents and tourists.

Road Network, Local and State

Havre de Grace has been subject to highway and road improvements over the course of its history that have caused it to sometimes react and the response has not always been elegant. US 40 is one example where a highway was

11. Transportation: A Focus on Multimodal Options

superimposed on the landscape and acts as a division within the City, separating it into 2 distinct halves. How does the City turn that around and make it a unifying feature long-term? In addition, subsequent suburban development west of US 40 along Chapel Road has been less than optimal in terms of its cohesiveness along a formerly rural roadway. Trying to amend these roadways, their functionality and appeal, is one major theme within this comprehensive plan effort. Identifying the problems and the issues are the first part in creating solutions.

Four major roadways which serve as vital transportation corridors will be described within this section: I-95/John F. Kennedy Memorial Highway, MD 155 (i.e. Level Road, Superior Street, and Ohio Street), US 40/Pulaski Highway, and Chapel Road. In addition, Lewis Lane/Grace Manor, which serves as a main connection between the historic core of the City and the newer neighborhoods west of US 40, will also be described. The goal is to recognize the importance of these main corridors and potentially to identify strategies to enhance them going into the future. Lastly, downtown Revolution and Juniata Streets and Pennington Avenue are in need of attention for greater corridor planning. It is not possible to outline the full strategy for each of the roads described here. However, this is the lead-in to identify the specific needs and enlist assistance in making improvements to design that make these important roadways better.

The street system in the older portions of the City is comprised of a traditional grid pattern and is relatively efficient. In general, road functionality is good, with traffic dispersed and operating at relatively slow speeds so that pedestrian and bike traffic is easily accommodated. Improvements can always be made, particularly with sidewalk connectivity and safe striped crosswalks. In some cases, greater corridor planning and refinement would be beneficial, with specific areas of focus being Juniata Street, Revolution Street, and Pennington Avenue.



Data source: image courtesy of explore Havre de Grace, 2023

The following table provides a brief outline of the major roadways in Havre de Grace and their functional classification as determined by MDOT SHA. Functional classification is defined as the role each roadway plays in moving vehicles throughout a network of highways. The associated map illustrates these relationships in a more visible, spatial way; this list is included for detail related to traffic counts and general roadway information.

Major Roadways in Havre de Grace 2022

47 Linear Miles of Roads in HDG
5.9 Square Miles Total Land Area

December 4th, 2023

18 Major Roadways

FUNCTIONAL CLASSIFICATION Roadway	ROUTE	AADT	ROAD DIRECTION (N-S, E-W)	# LANES	EXISTING SIDEWALK	EXISTING BICYCLE LANE	ON STREET PARKING	RIGHT OF WAY (State, City)
INTERSTATE								
John F. Kennedy (JFK) Memorial Highway	I - 95	82,355	N-S	6	NO	NO	NO	150 (State)
PRINCIPAL ARTERIAL								
Pulaski Highway	US 40	27,371	E-W	4	NO	YES	NO	150 (State)
Level Road	MD 155	14,954	E-W	2	NO	NO	NO	80 (State)
MINOR ARTERIAL								
Juniata Street	-	5,051	N-S	2	Partial	NO	YES	70 (City)
Otsego Street	MD 7A	-	E-W	2	Partial	NO	YES	70 (State)
Revolution Street	MD 7A	9,801	E-W	2	Partial	NO	NO	75 (State)
Superior Street	MD 763	7,091	E-W	2	Partial	NO	NO	75 (State)
Union Avenue	MD 7A	3,855	N-S	2	Partial	NO	YES	132 (State)
MAJOR COLLECTOR								
Bloomsbury Avenue	-	1,305	N-S	2	Partial	NO	YES	40 (City)
Bulle Rock Parkway	-	2,745	N-S	2	NO	NO	NO	60 (City)
Canvasback Drive	-	2,095	N-S	2	Partial	NO	YES	50 (City)
Chapel Road/Ontario Street	-	3,681	E-W	2	Partial	NO	NO	50 (City)
Congress Avenue	-	-	E-W	2	YES	NO	YES	132 (City)
Giles Street	-	421	E-W	2	NO	NO	NO	70 (City)
Grace Manor Drive	-	-	N-S	2	Partial	NO	NO	70 (City)
Lewis Lane	-	4,461	E-W	2	Partial	NO	NO	70 (City)
Ontario Street	-	942	E-W	2	Partial	NO	NO	70 (City)
Pennington Avenue	-	1,072	E-W	2	YES	NO	YES	70 (City)

AADT: Average Annual Daily Traffic

Data Source: AADT <https://data.imap.maryland.gov/datasets/maryland::mdot-sha-annual-average-daily-traffic-aadt/explore?layer=0&loc>

I-95/John F. Kennedy Memorial Highway

Interstate 95/John F. Kennedy Memorial Highway (I-95) is the main high-speed limited access highway located along the north and west perimeter of the City. It proceeds southwest to northeast along the edge of the City, linking large metropolitan centers such as Baltimore, Washington, D.C. to Wilmington, DE, Philadelphia, PA and beyond. Through Maryland, I-95 is maintained by the Maryland Transportation Authority (MdTA) and has a functional classification of an arterial highway, allowing through-traffic movement with full control access only at grade-separated interchanges. This interstate currently acts as a boundary for the City as well as Harford County's development envelope, its urban growth boundary.



11. Transportation: A Focus on Multimodal Options

The interchange at MD 155/I-95 is the City's primary gateway. As early as 2001, the City annexed land up to but not beyond this interchange and now controls its land use in the southeastern quadrant which was zoned MOE (Mixed Office Employment) at the time. In general, the roadway functions well, however traffic turning movements due to road geometry at the MD 155/I-95 interchange are somewhat confusing, particularly on the northbound on- and off-ramps from I-95. Reconfiguration of the interchange was contemplated with the development of the MOE with a full service hospital and adjoining commercial uses but that project did not materialize. Approved through MDOT SHA in concert with Harford County and the City of Havre de Grace, the design concepts from the most-recent site design related to the planned hospital should be retained and/or revisited for future improvements implementation.

Fortunately, the MD 155 overpass bridge to I-95 was built with room for an additional travel lane, so some limited road reconfiguration is possible – whether it is shifting lanes slightly or adding bike lanes. This is the route of the September 11th National Memorial Trail, ECG, and USBR 201 which was adopted in 2021. Long-term improvements over I-95 at the MD 155 interchange must include bike lanes.

MD 155/Level Road/Superior Street/Ohio Street

MD 155 is a principal arterial that connects the I-95 interchange to US 40 and is known as Level Road, Superior Street, and Ohio Street depending on the segment within the City. Traveling from west to east from the interchange to Bulle Rock Parkway, there is an important need for interchange uses, such as fuel, food, and restrooms. The opportunity here is unique in that the land is undeveloped and rural – an open canvas that should serve limited highway uses but also serve the neighboring communities. Active transportation options (i.e. biking and walking) must be built into any roadway improvements, not just to the MOE site but to Lapidum Road for connection to the LSHG.

Traveling eastbound along MD 155 are beautiful views of the Chesapeake Bay. This portion is Level Road and includes 50 acres of protected lands of Sion Hill and buffer areas of Vulcan Quarry that will keep the rural feel of MD 155 to Canvasback Drive. This area should not change from its current use however it is important to retain the viewshed to the Bay. A grade-separated bike path has been conceived as part of bikeway planning through the City by the ECG. This would allow for full bike connectivity from the City's historic areas to the LSHG and Susquehanna State Park by way of Lapidum Road and on towards Bel Air.

MD-155 Level Rd Sidepath



MD 155/Superior Street begins at the edge of City limits located on the north Meadowvale community and follows

the steep grade of the Atlantic Seaboard Fall Line where the Piedmont Plateau and Atlantic Coastal Plain meet. Nowhere is the geologic escarpment more pronounced than along this section of MD 155, making the steep grade a significant limiting factor for road improvements. Here the road becomes a 4-lane road with no median and no shoulder. Land uses are relatively fixed through here with adjoining residential lots and charming views of the Chesapeake as one descends into the historic City. Here, the road diverges as Superior Street going straight (MD 763, only a quarter mile long) or sweeping right onto MD 155/Ohio Street after passing under the CSX rail line.

East Coast Greenway Alliance • Connecting people to places, Maine to Florida • greenway.org

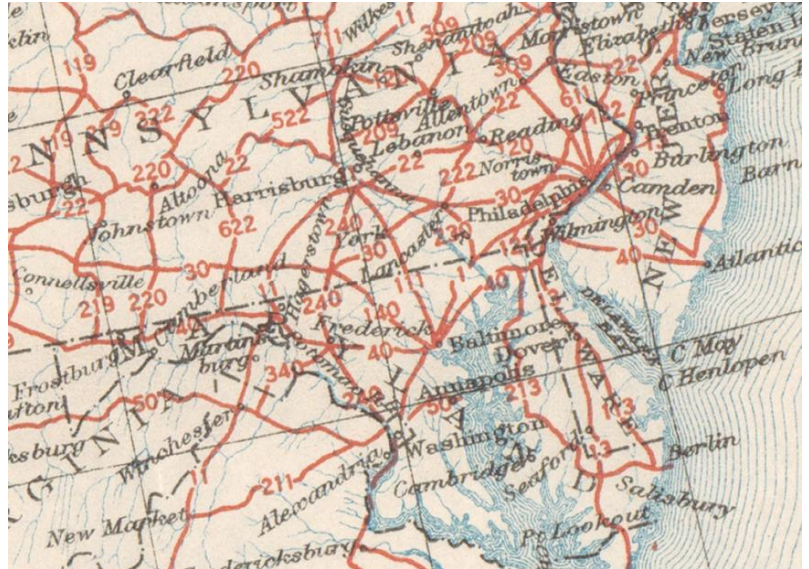


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MD 155 becomes Ohio Street, tying directly into the old grid-patterned street system, which is complicated by its intersection with Ontario Street Extended and US 40, which is where it ends. The 5-way intersection of MD 155/Ohio Street, Otsego Street, and US 40 is the most problematic intersection in Havre de Grace and is problematic within the region. It has been identified as a failing intersection for decades, especially with the southeast bound turning movements from MD 155/Ohio Street onto US 40 to the Thomas J. Hatem Memorial Bridge. The MD 155/Ohio Street right-of-way is constricted and complicated by the Ontario Street Extended intersection, and ongoing studies have not made any conclusive design solutions. The City will continue to work with its partners at MDOT SHA to try to mitigate this difficult intersection.

US 40/Pulaski Highway

US 40/Pulaski Highway is a major 4-lane highway that passes through Havre de Grace, bisecting the historic waterfront community from newer neighborhoods west of US 40. Known as the Main Street of America, US 40 was one of the original US highways connecting cross-country east to west from Atlantic City, NJ to San Francisco, CA; its terminus today is in Utah. US 40 was ready for highway travel with the opening of the Thomas J. Hatem Memorial Bridge in August, 1940. At the time it was built, it swept the western edge of Havre de Grace, bypassing the historic downtown and its residential neighborhoods and slicing a diagonal on the City's orderly grid patterned street system. This made for a tangle of unusual intersections that have become problematic with modern traffic, especially the split at the bottom of the hill at MD 155 and MD 763/Superior Street and the complicated 5-way intersection of MD-155/Ohio Street and Otsego Street.

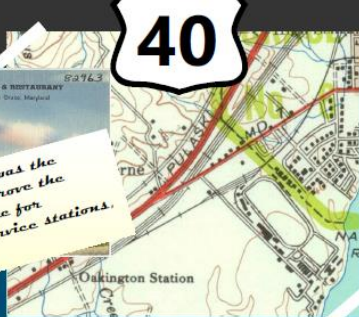


Maryland portion of the United States Systems of Highways Map,
November 11, 1926

US 40 is a major feature within the City and it is central to the way the City functions, providing commercial uses such as gas stations, retail, convenience, and grocery stores for daily needs. Paralleling I-95 through the region, US 40 is identified as a principal arterial, traversing from southwest to northeast through the City and linking metropolitan population centers such as Baltimore and Wilmington, DE. It was the premier highway through Harford County until I-95 was built in the 1960s. In the immediate region, US 40 connects Havre de Grace with Aberdeen and the Edgewood/Joppatowne areas within Harford County and Elkton and Northeast in Cecil County.

US 40 is a divided highway with a generous green median which makes it an attractive highway. Streetscape improvements within Havre de Grace were performed over 25 years ago which added innovative stormwater management and plantings within the median, crosswalks, and a full sidewalk on the westbound lane from Lewis Lane to the MD 7/Otsego Street intersection. These improvements were instrumental in creating a more walkable and unified commercial area within city limits. Extension of these concepts with MDOT SHA through a Complete Streets approach would continue to create a level of cohesion along this divided highway through the City, linking the 2 sides of the City. This may include additional safe pedestrian crossings within the commercial area, the addition of the grade-separated bike lane, and continuation of median and shoulder tree plantings. The goal is to create a slower, identifiable commercial corridor that creates a bridge between this historic City center and the newer neighborhoods west of US 40. The following graphic promotes the idea of “Reimagining Route 40”, not as a dividing thoroughfare through the City, but as a connector utilizing the concepts of Complete Streets. Please note the idea of multimodal design with safe bike and pedestrian features built in.

RE-IMAGINING



40






In the 1940s-1960s, automobile travel was the dominant mode of transportation and drove the development of commercial convenience for travelers along Route 40 – diners, service stations, motels, & attractions.

USING THE CONCEPT OF COMPLETE STREETS

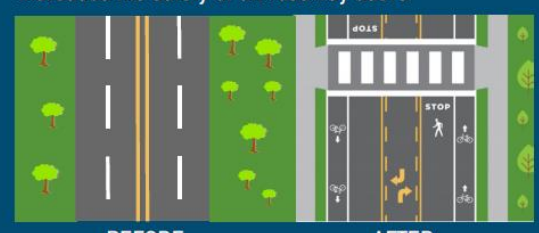
Economic Vitality through Transit

Transportation improvements can create economic growth by creating desirable, healthy communities that support walking, bicycling and transit usage while supporting local businesses.

Benefits of Complete Streets


 AESTHETIC DESIGN Low Profile Signage Attractive Buildings Landscape Plantings	 PEDESTRIAN & BICYCLE SAFETY Pedestrian Refuge Islands Road Diet Bike Lanes Sidewalks	 MULTI-MODAL DESIGN Special Bus Lanes Access to Employment Transit for people without vehicles Accessibility for all	 INVESTMENT OPPORTUNITIES Revitalize Development Higher Real Estate Values Supports Business Climate	 PROMOTES TOURISM Community Safety Lighting Improvements Personal Investment
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What is a ROAD DIET?
 A traffic-calming measure which increases the safety of all roadway users.



BEFORE
AFTER

COMPLETE STREETS STUDY OF ROUTE 40



BALTIMORE METROPOLITAN COUNCIL

MARCH 2022

The Baltimore Metropolitan Council (BMC) is actively developing a multi-modal concept plan for a 5.1 mile segment of US 40 (Pulaski Highway) in Harford County, Maryland between Havre de Grace and Aberdeen. The primary goals include; develop a multimodal concept plan that can guide the development of a cohesive and low stress facility, evaluate options for the separation of multimodal facilities from motor vehicle traffic, create typical cross sections, identify the relationship of the concept plan with other modes of travel, develop an implementation and maintenance strategy, and identify funding opportunities and wayfinding/branding strategies.

Chapel Road/Ontario Street Extended

Chapel Road/Ontario Street Extended functions as a major collector within the City, linking area neighborhoods with US 40 in an east/west orientation. In the past, it was a rural road emanating from the northern edge of the riverfront town and was replete with farmland and orchards. Property-owners owned to the centerline and remnant portions of the road still reflect that. A result of piecemeal development, the current roadway is inconsistent in its design, where some lengths were constructed as open-section (i.e. no curb and gutter) while some are closed-section (curb and gutter) and where intermittent sidewalks drop away at adjoining un-annexed parcels.

Chapel Road/Ontario Street Extended requires a unified design plan that identifies the disparate segments and re-visions a cohesive corridor from MD 155/Ohio Street to and along Bulle Rock Parkway at MD 155. A traffic study completed in 2019 on behalf of the City should be used as the basis for planning and design work to inform improvements and repair inconsistencies along this important corridor⁷. The idea is to create a best-effort approach in creating a more functional roadway that works for the neighboring communities and includes active mobility, such as sidewalks, side-paths, and bike lane markings where possible and appropriate.

⁷ Traffic Impact Study Chapel Road Project, February 2019 was prepared for the City of Havre de Grace by Traffic Concepts, Inc. of Hanover, Maryland with analysis of 2019 traffic movements, 10-year projections, recommendations, and conclusions.

11. Transportation: A Focus on Multimodal Options

The Chapel Road Study focuses on 7 intersections along Bulle Rock Parkway and Chapel Road, measuring traffic counts at the time and provided traffic projections 10 years later (2029) after additional build-out of neighborhoods. At the time of the study, there were no failing conditions based on traffic counts. However, future conditions will exacerbate problem areas, such as the Grace Manor/Gracecroft Drive intersection, an area that already receives complaints. The study offers a series of improvements to include additional roundabout locations. This study should form the basis for a unified street design effort to make improvements that aid the increased volume while controlling vehicular speed and providing for alternative modes of transportation.

Lewis Lane/Grace Manor Drive

The extension of Lewis Lane to Grace Manor Drive west of US 40 is a local road that functions as a major collector due to the limited number of access points from the neighborhoods along Chapel Road to US 40. This road is a cut-through that was not intended to handle the level of traffic that occurs here. The Chapel Road Study from 2019 makes specific recommendations to locate a mini-roundabout and with a mountable center island to accommodate buses and trucks at the Chapel Road intersection with Grace Manor and Gracecroft Drive. The study notes that the roadway is constrained by the adjacent residential properties and has numerous driveway access points which limit the opportunity for improvement to the roadway itself.

Additional US 40 Connections

Additional US 40 roadway connections occur at Blenheim Farm Lane at the Bulle Rock Golf Course and at the neighborhood of Greenway Farm. Both have median crossovers at these entrances on US 40. Blenheim Farm Lane allows for residents of Bulle Rock to have 2 access points into and out of the neighborhood, connecting Chapel Road to Pulaski Highway. This is a beautifully-sited lane through the golf course that takes full opportunity of the rolling terrain and long views to the Bay. (As a private road, are bikes allowed? – they should be.)

Martha Lewis Drive provides the bridged entrance to Greenway Farm, a developing neighborhood that is somewhat isolated from the surrounding Bulle Rock community due to its lack of interconnectivity. However, emergency access is retained through the Bulle Rock community due to the nearby unimproved grade crossing at the CSX rail line. US 40 bikeway connections along westbound US 40 would create a network for non-motorized transportation that would link these residential communities in a more cohesive way, tying them back to US 40 commercial areas and the historic core of Havre de Grace.

Downtown Roadway Network

The traditional grid street system of the historic core of the City functions well, allowing for multiple pathways for reaching destinations. Over the past 5 years, there is a trend showing a reduction in annual average daily traffic (AADT) within historic Havre de Grace⁸. The initial drop in traffic naturally coincides with the COVID-19 epidemic but traffic volumes have not returned to earlier amounts. One example is MD 7A/Revolution Street which had a 2019 AADT of 11,241, 2020 (9,392), 2021 (9,740), and 2022 (9,801); this is a 13% decrease in traffic. Other roadways, such as Lewis Lane and Juniata Street, show similar decreases in traffic.

The hierarchy of roads within the historic town center are shown on the Functional Classification map. Minor arterial roads within the older portions of the City include Juniata Street, MD 7A/ Otsego Street/Union Avenue/Revolution Street, MD 763/Superior Street, whereas major collectors include Congress, Pennington, and Bloomsbury Avenues and Lewis Lane by the Middle/High School complex. These streets are differentiated from the local roads in the amount of travel and they will be considered within the scope of the bikeway grants for potential improvements.

⁸ Data source of AADT and AAWDT is MDOT SHA online mapping tool:
<https://data.imap.maryland.gov/datasets/maryland::mdot-sha-annual-average-daily-traffic-aadt/explore?layer=0&location=39.547397%2C-76.121754%2C14.45>

11. Transportation: A Focus on Multimodal Options

Corridor planning for MD 7A/Revolution Street, Juniata Street, and Pennington Avenue are necessary for their functionality and attractiveness. Coming from the south from US 40, Revolution Street is a significant gateway into the historic center of the City that has many different uses along it – industrial, commercial, and residential. If there is a way to make this corridor more organized and attractive, the City should pursue it. Juniata Street is similar in the need for cohesion. It is a city-owned street that is very wide with a great deal of underutilized pavement that could be improved aesthetically and functionally, to include bike paths, traffic calming, and crosswalk enhancements, especially at the James Harris Stadium entrance. Understanding that it must accommodate truck traffic for industrial and commercial access, Juniata could be enhanced and still retain full functionality for large truck turning movements. Lastly, Pennington is a gateway to the City's downtown and recommended for enhancement through a civic spine concept (see *Community Facilities* chapter). It is another wide local road that needs to be re-envisioned with a creative eye with coordinated street trees, bike lanes, and pedestrian connections from the Middle/High School complex to the STAR Centre to the library, Opera House, and downtown.

Wayfinding

Navigating the City can be confusing, especially for weekend visitors, tourists, and new residents who are not familiar with the City layout and all its rich culture and history. Cohesive wayfinding signage and an advertising program that provides consistent and informative documentation for drivers, pedestrians, and bicyclists should be implemented. This includes the active transportation network of shared-use paths of the City's waterfront Heritage Corridor, the broader LSHG, the 3 National Historic Trails, and designated bike-friendly streets within the City. By directing people from the I-95 and US 40 to the Visitor's Center with a series of recognizable graphics, the City can enhance its economic development and tourism appeal while directing people to City event venues, public facilities, local parks, shopping, and public parking.

Road Maintenance

The City's DPW continues to maintain and improve streets within Havre de Grace through a regular road maintenance program. The City has an integrated Capital Improvement Program (CIP) that addresses utility infrastructure repair to include street and sidewalk improvements. This CIP process generally provides a 5-year timeline for planned physical improvements and includes enhancements, such as bikeway, park, and streetscape improvements. All capital improvements should also be identified and included in the CIP so that they may be implemented in a reasonable and accomplishable sequence.

Adequate Public Facilities

In 2020, the City passed its Adequate Public Facilities (APF) ordinance governing schools, public roads, water supply and distribution, and sewage disposal for all new developments. City Code *Chapter 2. Adequate Public Facilities, Section 9. Roads* creates the process for determining adequacy standards for roads in relation to subdivision and site plans during development review utilizing traffic impact analysis with minimum standards to be met.⁹ Please see the Code for the specific requirements for the application of this regulation. These criteria are applied to ensure effective vehicular passage during on/off peak hours after development and largely assesses intersection adequacy. A minimum level of 'C' is required in residential areas and a level of 'D' is required for all other intersections.

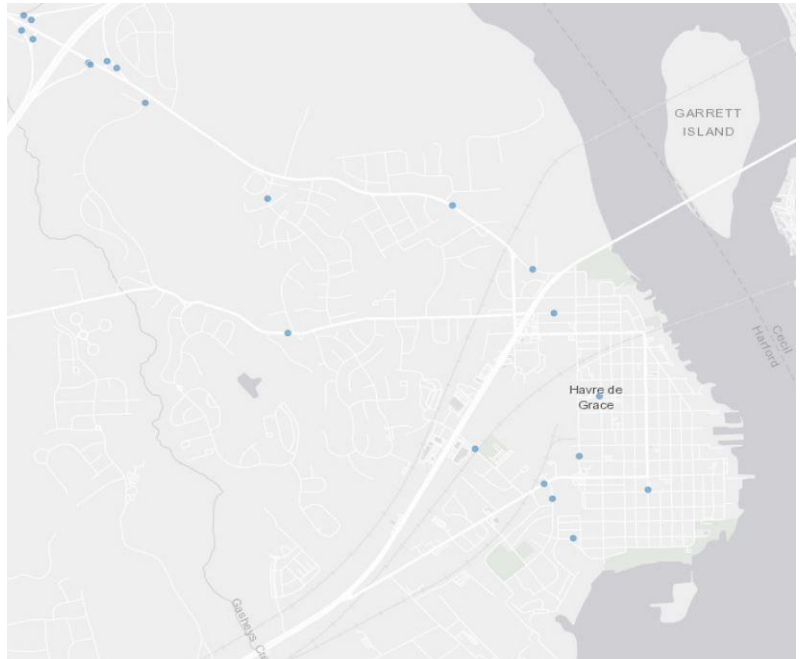
⁹ Chapter 2. Adequate Public Facilities can be accessed here on eCode360: <https://ecode360.com/36744289#36744289>

11. Transportation: A Focus on Multimodal Options

Road Capacities and Traffic Volume

The capacity of a street is the maximum number of vehicles that it can carry during any given period of time. This is usually determined by the maximum number of vehicles that can pass a given section of a roadway in either or both directions during a certain time-period under prevailing roadway and traffic conditions. Road conditions can seriously hinder traffic flow and thus reduce capacity. For instance, if a portion of a street is utilized for parking, the traffic capacity is proportionately reduced. Another factor that affects the capacity of a street is the number of access points onto and from the street; numerous access points greatly reduce traffic capacity. Traffic signals and stop signs, although required for safety, also reduce roadway capacity.

MDOT SHA has locations for gathering AADT and AAWDT (Annual Average Weekday Traffic) around the state, the latest data (2022) which is reflected in the table of major roadways. Locations that these data are collected are shown in the adjoining map and give a good understanding of traffic volume at various points around the City. Ten years of data per location are available on the MDOT SHA interactive map, so traffic trends for these roads may be analyzed and understood.



This map shows the location of MDOT SHA AADT and AAWDT data locations as referenced in the Major Roadways table.

Rights-of-Way

City rights-of-way and road widths are somewhat variable within the City. Designed as the earliest principal streets, Union and Congress Avenues have 132 foot rights-of-way with a street pavement width of 40 feet. The majority of the remaining grid-patterned streets in the older sections of the City have a 70 foot rights-of-way with 30 to 35 foot pavements. Streets in the Concord Fields neighborhood are variable with anywhere from 40 to 60 foot rights-of-way with 30 to 35 foot pavements. Suburban subdivisions, starting with Bayview Estates and Grace Harbour, have 50 and 60 foot rights-of-way with 30 and 36 foot pavements which is the result of the City having adopted the Harford County Road Code. A few streets within the City, such as Alleghany, Chapel Heights Drive, and Hebditch Streets, have unusually narrow rights-of-way. All lanes in the City have rights-of-way of 20 feet with 12 foot pavements.

Actions for Road Network, Local and State

- Coordinate with MDOT SHA and Harford County to provide seamless connectivity, consistent road design, and successful transitions as related to City, State and County roads.
- Continue to provide MDOT with transportation priority recommendations that influence the City in the Statewide Transportation Improvement Program (STIP) and Consolidated Transportation Program (CTP).
- Continue to coordinate with Harford County in the annual recommendation letter to MDOT that includes priority transportation improvements.

11. Transportation: A Focus on Multimodal Options

- Work with MDOT SHA for design improvements to the various state roads within the City with the intention of creating Complete Streets where possible, to include MD 155, MD 763/Superior Street, US 40, and MD 7A/Otsego/Union Avenue/Revolution Street.
- Work with MDOT SHA to develop a long-range concept plan for MD 155 that includes bikeway and pedestrian planning and improves visibility beyond the CSX underpass, which is currently a stone-arch tunnel. This is necessary for safety and site distance improvements for traffic at the bottom of the steep grade where Superior Street becomes MD 763 and MD 155 becomes Ohio Street. As unsafe as it is, pedestrians and bikes utilize lanes of traffic on this 8% grade, making it challenging at times for drivers to negotiate this hill.
- Work with Maryland Transportation Authority, MDOT State Highway Administration, and/or Harford County Government to ensure that necessary roadway improvements during all phases of planning, to include preparation of capital budgets, design, and construction. Specific improvements include: I-95/MD 155 interchange at Bulle Rock Parkway to accommodate major development planned in the southeast quadrant of the interchange; the US 40 Complete Streets implementation to the maximum extent possible; and the Chapel Road/Ontario Street Extended segment improvements where it joins with MD 155/Ohio Street. Through these initiatives, consider new crossover locations along US 40 and potential new alignments of Ontario Street Extended to better serve the community within the City.
- Pursue federal and state grants to design and construct necessary roadway improvements that improve safety and function, especially with regard to Chapel Road/Ontario Street Extended where a consistent road design with pedestrian and bikeway improvements would greatly benefit adjoining neighborhoods. The Traffic Impact Study Chapel Road Project which was performed in 2019 by Traffic Concepts, Inc. on behalf of the City should be the basis for roadway planning and construction design. Specific consideration is needed for the improvement of Gasheys Creek culvert at Chapel Road to allow bike and pedestrian access while at the same time provide for 2-lane passing of vehicles while, at the same time, not increasing the speed of vehicles traveling along Chapel Road.
- Continue to receive public input from the City's Street and Traffic Safety Advisory Board on the needs for continuous improvement to the transportation infrastructure throughout Havre de Grace.
- Include functional and aesthetically pleasing landscaping for traffic calming measures and other amenities as part of transportation improvements while enhancing the pedestrian experience.
- Recognize the opportunity for a scenic view pull-off along MD 155 where views of the Chesapeake Bay could be maximized within the right-of-way that abuts the 50 acre conservation easement of Sion Hill.
- Explore the potential for extending MD 763/Superior Street through public lands at North Park to make an enhanced entrance to the downtown Main Street District by way of Water Street.
- Continue to utilize an integrated Capital Improvement Program (CIP) for roadway improvement and repair that includes bikeway and sidewalks for increased multimodal safety and accessibility.
- Utilizing GIS spatial software for the management of the City's rights-of-way (ROW), identify what assets are located in the City's ROW, monitor encroachments, and ensure regulatory compliance.

ADDITIONAL TRANSPORTATION-RELATED OPPORTUNITIES

Local Trolley for Visitor Experience

In 2022, the City began operating a first-of-its-kind electric trolley shuttle service through the historic downtown during weekends of the tourist season, connecting public parking areas with waterfront parks, cultural attractions, and the Main Street District. Special permission was granted to the City for operating this service, as these were specially outfitted open-air trolleys for limited operation on roadways. The fleet began with 4 trolleys with 2 fully ADA-accessible vehicles coming in fall, 2023. In addition, a 16-passenger shuttle bus will be joining the fleet in spring, 2024. Trolley drivers serve as ambassadors for the City, providing historical and cultural information to passengers to enhance their overall experience while exploring the City's art and cultural attractions and commercial downtown.

Taxis and Shared Service Operators

Just as within many other communities, registered local cab/taxi service and shared service operators (for ridesharing, such as Uber and Lyft) for those seeking more personalized methods of transportation are active within the City. These services are accessible to individuals at their chosen pick-up and drop-off locations.

Parking

Parking can be a troublesome issue – whether there is enough or too much is often a question. The City adopted minimum off-street parking requirements for new or modified buildings in 1999, most of which require 3 parking spaces per unit for new residential development projects. In the meantime, the City has a significant parking exempt area in the commercial Main Street District where there is a fair amount of public parking lots as well as on-street parking. Special parking arrangements are currently being explored to supplement the existing parking in this district. The most popular on-street parking locations include Washington and St. John Streets and Pennington Avenue for main downtown businesses, with on-street parallel parking also available on Union Avenue. The City will monitor parking trends related to telework, ride-sharing, alternative modes of transportation, and autonomous vehicles as these methods become more prevalent, influencing the built environment and a community's lifestyle opportunities.

Electric Vehicle Charging Stations

As electric vehicles (EV) become more prevalent the need for charging stations will increase. Fortunately over the past 5 years, the City has installed several public EV charging stations. The EV charging stations are located at David Craig Park, along Pennington Avenue, and within the park-n-ride at the corner of Juniata and MD 7/Otsego Street. Currently, there is 1 DC fast-charging station along Pennington Avenue with 6 Level 2 charging stations (2 plugs each) at the other locations. The park-n-ride EV location is convenient for the Downtown Baltimore commuter bus provided by MTA.

Public Parking in HdG				
7 Surface City Parking Lots 2 Park n Ride Lots				
PUBLIC PARKING IN THE CITY	LOCATION	DURATION (hours)	NUMBER OF PARKING SPACES	EV CHARGING CAPABILITIES
David Craig Park*	599 North Union Avenue	2	27	2 EV level two charging stations
Havre de Grace Park n Ride	816 Otsego Street	2	56	3 EV level two charging stations
Lodge Lane*	W S Lodge Lane	2	23	No EV chargers
Warren Street Parking	S.S. Warren Street	2	49	No EV chargers
Frank Hutchins Park*	End of Congress Ave	2	28	No EV chargers
STAR Centre*	Pennington Avenue	2	327	3 EV level two charging stations
Pennington Ave	Foot of Pennington Ave	12	35	No EV chargers
Water Street*	649 Water Street	12	60	No EV chargers
I-95 HdG Park n Ride	2300 Level Road	48	71	No EV chargers

* In May through October on the Weekends (Fri, Sat, Sun) the City operates the TIDE Trolley which picks up near these locations in a loop to popular downtown spots.

11. Transportation: A Focus on Multimodal Options

Rideshare

Ridesharing reduces the impact of automobiles on our roadways and our environment very simply by having people travel in groups rather than alone. There are 2 park-n-ride locations available for carpooling at 816 Otsego Street/Juniata Street and at the I-95 Interchange at 2300 Level Road. The utilization of ridesharing – which is simply 2 or more passengers traveling together in the same vehicle – remains a favorite among smart commuters for good reason. It is one of the most convenient ways to save time and money while reducing stress. Different ridesharing options make it easy to find a solution that suits individual needs. Carpooling, van pooling, and Uber and Lyft service are among several options available that make transportation more accessible while ensuring people can get to their destination.

Boating

Recreational boating and sailing are residential and tourism draws for Havre de Grace. Many people visit the area to enjoy the water with several public access locations to launch boats, kayaks, and personal watercraft (such as jet skis) for a small launch fee, and area marinas offer slips and storage. Some of these locations also include docks, public parking, and park seating for waterfront enjoyment. The Bay acts as a magnet bringing people together.

Local Flight

Harford County Airport is located within 4 miles of Havre de Grace and has been upgraded substantially in the past 5 years. Operated by Harford Air Services, the airport and its facilities offer the only flight school in Harford County and provide local access to aviation storage. The City also has a privately-owned FAA approved Sea Plane Base located at La Banque de Fleuve, 309 St. John Street.



Sea Plane Base photo, image courtesy of website

TRANSPORTATION PROGRAMS AND RESOURCES

The City of Havre de Grace is an identified Priority Funding Area in addition to being a designated Sustainable Community and can collaborate with adjacent municipalities to advance projects. Various federal, state, and county grant funding may be available for transportation-related projects with an emphasis on alternative modes of transportation. The City will continue to coordinate with MDOT SHA, Harford County, adjacent municipalities, and other governmental agencies to identify priority areas for capital improvement opportunities. This section provides a brief overview but not an exhaustive list of potential grant funding opportunities available:

Federal

- **Safe Streets and Roads for All (SS4A) – U.S. Department of Transportation (USDOT)**

The purpose of the SS4A grant program is to improve roadway safety by significantly reducing or eliminating roadway fatalities and serious injuries through safety action plan development and implementation focused on all users, including pedestrians, bicyclists,

public transportation users, motorists, personal conveyance and micromobility users, and commercial vehicle operators.

- Conduct planning, design, and development activities (infrastructure, behavioral, operational safety, etc.) in support of an Action Plan.
- Carry out projects and strategies identified in an Action Plan.

State

- **Transportation Alternatives Program (TAP) – MDOT SHA**

Projects that enhance the cultural, aesthetic, historic, and environmental aspects of the intermodal transportation system.

- **Kim Lamphier Bikeways Network Program – MDOT**

The program supports projects that maximize bicycle access and fills missing links in the state's bicycle system, focusing on connecting shared-use paths and roads and enhancing last-mile connections to work, school, shopping, and transit.

- Bicycle facility feasibility assessments, design, engineering, and construction

- **Recreational Trails Program – MDOT SHA**

The RTP provides Federal funds to States (administered by MDOT SHA) to develop and maintain land and water-based recreational trails and trail-related facilities for motorized and non-motorized recreational trail uses. Some of these uses include pedestrian, road/mountain biking, equestrian, cross-country skiing, snowmobiling, off-road motorcycling, off-highway vehicle riding, paddle sports, personal watercraft, and motorized boats.

- Construction of new recreational trails
- Trail linkages for recreational trails
- Maintenance and restoration of existing recreational trails
- Acquisition of easements and property for recreational trails

- **Safe Routes to Schools – MDOT SHA**

Safe Routes to School (SRTS) programs are federally-funded efforts to enable and encourage children to safely access schools by various modes such as walking or bicycling. These funds are administered by MDOT SHA and are available for infrastructure and non-infrastructure projects that benefit elementary and middle school children in grades K-8.

- On- and off-street bicycle/pedestrian improvements
- Bike/ped crossing improvements
- Sidewalk improvements (within two miles of a school)
- Public awareness campaigns for press and community leaders

- **Community Legacy Program – DHCD¹⁰**

This program provides local governments and community development organizations with funding for essential projects aimed at strengthening communities through activities such as business retention and attraction, encouraging homeownership, and commercial revitalization and streetscape improvements.

- Business retention, expansion, and attraction initiatives
- Residential and commercial façade improvement programs

- **Bicycle and Pedestrian Accessibility Funds – MDOT SHA**

MDOT SHA administers Maryland State accessibility funds 33, 79 and 88. These funds address pedestrian and bicyclist safety, connectivity between modes of transportation and the increasing demand for sidewalks and pedestrian paths.

¹⁰ Department of Housing and Community Development

Street and Traffic Safety Advisory Board

The City has a designated advisory board addressing citywide issues related to street safety. Areas of focus include traffic, parking, street lighting, and pedestrian issues. This enables local residents who are experiencing adverse traffic related problems to work with City officials and the Department of Public Works to identify problems, assess solutions to mitigate traffic, reduce congestion, and address safety concerns in addition to parking in affected communities.

Coordination with Harford County Government

City staff coordinate with planning staff at Harford County for an annual Priority Letter for identifying major transportation projects for state transportation agencies on a yearly basis. Transportation funding is a regional effort where competition for funding is great and jurisdictions must be aligned for what is identified and needed. In addition, City planning staff include Harford County staff in traffic impact analysis review for the benefit of their expertise and for projects of shared interest and/or impacts.

Bicycle and Pedestrian Priority Area

An advantage to communities within the City are the access to localized services such as food, recreation, and education that are in close proximity to the Main Street District and tourist centers. The City is working to encourage bicycling as a means for short distant trips by providing safe and effective bicycle infrastructure and is seeking to designate geographical areas as Bicycle and Pedestrian Priority Areas (BPPA) where cyclists and pedestrians are priority. This will enable the City to develop a BPPA Plan for improvements and make safe accommodations. Once a designation area has been achieved, a partnership with MDOT-SHA can commence. An additional designation is as a Short Trip Opportunity Area (STOA) by MDOT.

FUTURE TRENDS

Walkable neighborhoods with access to public transit, multimodal routes and proximity to the people and places they love are the key to a happier, healthier and more sustainable lifestyle. Transit Oriented Development (TOD), “Live Near Your Work” initiative, and micromobility are gaining momentum, such as e-bikes, e-scooters, and other forms of renewable transportation that occur on a more local neighborhood scale for both work and recreation.

Employers are encouraged by the State of Maryland to offer financial incentives for employees to live near their employer and participate in the bike to work program. This reduces the dependence on traditional vehicles across Maryland as a whole and locally in the downtown area, along the waterfront, and the neighborhoods to service centers and shifts the focus to a smaller scale, easily accessible, lower carbon footprint, electric and renewable energy methods of short distant commutes, last mile trips, and curb side accessibility to better serve the needs of the community without the hassle of finding vehicle parking while being safe, fun and exciting.

These alternative forms of micromobility increase the number of people who can occupy a given space that is otherwise taken up by personal vehicles and enables more people to gather around economic centers, arts and entertainment districts, and in small neighborhood parks. The built environment needs to reflect trends for curbside management to accommodate services such as meal delivery, freight, and same day shipping. This also goes for hailing vehicles, such as Uber and Lyft, to a person’s exact location. All are influencing how people, goods, and services are transported into the City, with integration being key.

Digitalization has drastically influenced cities and communities and is driving societal, economic, environmental, and political changes, making the world more complex and dynamic. Reimagining public spaces to accommodate new means and methods of transportation for both physical and virtual activities will be necessary. Where people choose

11. Transportation: A Focus on Multimodal Options

to live, work and play is evolving, and how people interact, order food, request services, and expect same day deliveries all have considerable influence on the built environment.

12. COMMUNITY FACILITIES

The City of Havre de Grace has a wealth of community facilities that are available and accessible. These facilities can be grouped into five general categories: (1) Parks, Recreation, and Open Space, (2) Museums and Cultural Facilities, (3) Schools, (4) Public Buildings, and (5) Health Services. For the purpose of this comprehensive plan, community facilities include properties and buildings providing a service to the City, many of which are owned and operated by Harford County Government, such as public schools, the local public library, and the large nearby regional parks. Community facilities are integral to the physical structure of a community. They influence the community's appearance and livability, and their availability and adequacy are a measure of the quality and desirability of a community.

This chapter is divided into sections based on the above-mentioned five categories. Each section includes a brief introduction of the topic and description of existing facilities for each category within the City. Community facilities that are located outside of the City but serve the region are also addressed in each section. These are facilities that benefit Havre de Grace residents by virtue of their proximity to the City, such as the Havre de Grace Ambulance Corps located just outside City-limits, nearby Susquehanna State Park, and adjacent Swan Harbor Farm and Oakington Peninsula Park properties. This chapter will discuss the relationships between local and county government for providing services and will identify overarching requirements, such as adequate public facilities regulations for school capacity, that govern these provisions.

This chapter outlines the variety of community facilities available to residents and visitors within the region. Intrinsic to these facilities are the volunteers that support them, whether it be Fire and EMS, the membership of the local Recreation Council, volunteer staffing of the City's Visitor Center, emcees and ushers at the Opera House, or the numerous board members and docents for the museums who provide caretaking for City-owned property. These facilities are often sustained through non-profit organizations that are dependent on the generosity of volunteers giving of their time to make these endeavors possible.

VISION: To meet the needs of community residents and stakeholders by providing necessary, beneficial facilities for sustained health and quality of life with the help of Harford County and the State.

Parks, Recreation, and Open Space

Parks, recreation, and open space are very important components for a community in terms of people's physical health, mental well-being, and quality of life. Planning for parks, recreation, and open space are three distinct but related considerations in the Comprehensive Planning process. All involve the setting aside of land, whether it be for the protection of environmental or landscape resources, the active recreational use of ball fields and play areas, or the more passive enjoyment of natural areas through hiking. The issue of parks, recreation, and open space presents a challenge to community leadership because of the costs associated with land acquisition, the long-term planning and provision for changing recreational needs, and the intrinsic necessity but elusive value of preserving public open space.

The Harford County Land Preservation, Parks & Recreation Plan (LPPRP) governs the planning of parks, recreation, and open space for all of Harford County including the municipalities. Updated every five years, the most recent plan was adopted in 2023 and describes the framework for recreation planning within the county. Harford County is divided into 15 geographic regions with Recreation Councils representing local needs and providing recreation programs for all ages, ranging from youth sports programs to adult and senior offerings. The Havre de Grace Recreation Council encompasses the greater Havre de Grace area and is one of the fastest growing recreation council areas according to the LPPRP¹. Additional recreational programs are offered through Havre de Grace Little League, which is a federally chartered non-profit organization under Little League International, providing tee-ball, baseball, and softball to area youth. The Havre de Grace Branch of the Boys & Girls Club of Harford & Cecil Counties also offer recreational activities to youth in after-school programs.

HARFORD COUNTY LPPRP
The 2022 Land Preservation, Parks & Recreation Plan
can be viewed on Harford County's Department of Parks
and Recreation website.

Harford County utilizes Maryland Department of Natural Resources LPPRP guidelines, which recommends a local recreation acreage of 30 acres per 1,000 residents within a ½ mile radius for walkability and 5-mile radius as a 15-minute drive standard for accessibility of regional park facilities. These state guidelines govern recreation planning within the entire county from which a capital improvement plan is created. The LPPRP is based on geographies, proximity, and equity standards that guide the development of new facilities. Please see the Harford County LPPRP for data and maps for a full view of parks, school playfields, and other information in relation to proximity and equity as required by state guidelines.

A real focus of this Comprehensive Plan is to create healthy places for a healthy lifestyle. This is desired for residents of all ages with a goal of connecting people to places that promote active and healthy lifestyles. Havre de Grace has extensive opportunities available for both youths, seniors, and those in between to avail themselves to the region's parks, activity centers, and trail networks. This chapter provides an illustrative map of the comfortable walking distance of ¼ mile to local and neighborhood parks, really showcasing the walkable nature of the City with respect to its public parks particularly in the older sections of the City. In addition, there is also a map showing the multiple, often overlapping, trail systems within Havre de Grace. Private neighborhood parks and trail networks owned by homeowners associations are not shown on this illustration as they are not open for public use.

Green Infrastructure is an important aspect of City parks and open space, now more than ever in relation to climate change. The City has a responsibility to integrate green practices into design and maintenance of facilities and recreational spaces. This is exemplified by the aggressive implementation of living shorelines and regenerative stormwater conveyance practices in the City's public spaces, where these features not only provide measurable water quality improvements and habitat but greatly improve the aesthetic of the City's parklands. This method of responsive infrastructure is intended to better serve the citizens and community while being equitable, inclusive, and environmentally restorative.

¹ See Harford County Land Preservation, Parks & Recreation Plan p. 21 Table 1-3 and related caption.



Havre de Grace has a wealth of public parks and recreational facilities, both local and regional. Four different kinds of parks are described in this plan and are determined by their scale and use. These include:

- **Local parks**, which provide localized limited outdoor active and passive recreational enjoyment and are often smaller in scale and available within walking distance of adjacent neighbors in a densely populated community
- **Neighborhood parks**, which are larger and provide active and passive recreational opportunities for all including sports playing fields and active play space
- **Playfields**, which are often school/recreational complexes that provide a greater number of playing fields for more competitive organized sports events
- **Regional parks**, which are large multipurpose with organized and unorganized recreational opportunities within the parks that serve an entire City or a larger region and often have interesting topography and physical attributes such as lakes and/or rivers.

This section will also describe the City's generous indoor recreational facilities and growing trail network that are great assets for connecting residents to the City's varied types of open space within the region.

The following is a list of park and recreational facilities within or in close proximity to the City and is organized under broad headings of Havre de Grace recreational facilities, privately-held parks and marinas, indoor recreational facilities, Harford County Board of Education playfields, regional parks and open space, and trails that connect. You will see that many of these are waterfront parks that are connected by trail systems as the City continues to create a network of beautiful public spaces along the shoreline.

[Havre de Grace Recreational Facilities](#)

Tydings Park is located south of Commerce Street along the Chesapeake Bay waterfront and consists of 8.9 acres of park area and includes the **Municipal Yacht Basin**. The park includes facilities such as a refreshment stand, fishing area, picnic facilities, a 240-slip public marina with fuel and pump out facilities, a public boat ramp, parking facilities, and playground with a large expanse of equipment for all ages and abilities. Tydings Park is the premier public park within Havre de Grace and hosts events each year, such as the summer-time *Concerts in the Park*. Tydings Island is located just south of the park and was created utilizing dredged material, providing shelter to the marina and offshore habitat.

North Park is a large public park area located in the northern portion of the City along the Susquehanna River. It is comprised of approximately 47 acres, including the Lock House and **McLhinney Park**, a 2 acre playground area. Of this, approximately 9 acres are owned by the City and the remaining acres are leased by the City from the Constellation Corporation (formerly Exelon). North Park's facilities include the Lock House Museum, the canal lock and swing bridge, and a transient dock for kayak launch and fishing. North of the playground is the North Park Loop Trail which is a hiking trail that traverses a large natural area that ends south of the CSX Susquehanna River Bridge. Coincidental trails through North Park include the Mason-Dixon Trail and the Lower Susquehanna Heritage Greenway.

David R. Craig Park is a small waterfront park (approximately 1.5 acres) at the northern end of Union Avenue. Located across from Legion Square at the primary entrance of the City's Main Street District, the park offers a recently installed monument to honor Alfred B. Hilton, Medal of Honor recipient, excellent water-views,

and parking for the downtown. In 2022, the City completed a regenerative stormwater conveyance system water quality feature with pathways and native plantings throughout the shoreline here.

Frank J. Hutchins Memorial Park is a small waterfront park (approximately 2 acres), located at the foot of Congress Avenue at the Susquehanna River within close proximity to the downtown. It consists of a fishing pier that also serves as a transient dock for boats and visiting vessels requiring deep water dockage, like the Pride of Baltimore II.

Jean S. Roberts Park is a small waterfront park (less than one acre) located at the foot of Otsego Street at the Susquehanna River which has been transformed into a regenerative stormwater conveyance system with natural pathways throughout.

Bradford Green Park is a small park (under an acre in size) owned by the City along Village Drive in the Bradford Green neighborhood and includes a basketball court, small playground, and an open play area.

Todd Field is a larger neighborhood park that is approximately 5.3 acres and located on both sides of Seneca Avenue in the Concord Fields community. Its facilities include a basketball court and a playground and hosts a community garden, food forest, and beehives through the Green Team.

Concord Point Park is approximately 9 acres in area and is located from Concord Point to Market Street, primarily along the south side of Lafayette Street. Facilities in this park include the Concord Point Lighthouse, the Havre de Grace Decoy Museum, the Havre de Grace Maritime Museum, a portion of the Promenade, an observation deck, a transient dock at the Lighthouse, an open play area at Lafayette and Market Streets, and the O'Neill House.

Veterans Park is a 1.6 acre site located behind Citizens Care Center on Concord Street with paved walking trails and a full complement of adult exercise equipment for health and well-being.

As the City's first dog park, **K9 Cody Park** is located within the Havre de Grace Community Center complex and features separate fenced areas for small and large dogs

Water Street Heritage Park is a recently created park featuring two new boat ramps for recreational boat access and living shoreline features. Formerly an industrial site, the property was purchased in partnership with Harford County Government and has been developed in partnership with Department of Natural Resources specifically for recreational boating. Industrial bulkheads have been replaced with sand and stone to replicate a more natural shoreline for environmental restoration, tying in with water quality improvements in adjacent Jean S. Roberts Park to the south.

PUBLIC PARKS in Havre de Grace			
Source: City of Havre de Grace - Department of Planning (2023)			
NAME	LOCATION	ACRES	DESIGNATION
Tydings Park & Yacht Basin	352 COMMERCE STREET	8.9	Local
Tydings Island	SOUTH OF TYDINGS PARK	13.1	Local
North Park	CONESTEO STREET	47	Local
David R. Craig Park	NORTH UNION AVE	1.5	Local
Frank Hutchins Park	100 CONGRESS AVENUE	2	Local
Jean S. Roberts Park	OSTEGO/WATER STREETS	0.8	Local
Bradford Green Park	VILLAGE DRIVE	0.2	Local
Todd Field/Seneca Park	BLOOMSBURY/SENECA	5.3	Neighborhood
Concord Point Park	701 CONCORD STREET	9	Local
McLhinney Park	N. ADAMS STREET/ LOCUST LANE	2	Local
Veterans Park	CONCORD/REVOLUTION STREET	1.6	Local
K9 Cody Park	100 LAGARET LANE	1	Local
Water Street Heritage Park	WATER STREET	3.1	Local

Privately-held Parks and Marinas

Stancill Park is a privately-owned baseball/softball facility of approximately 14 acres which is located at the intersection of Old Bay Lane and Old Post Road adjacent to the Chesapeake Industrial Park. The facilities are owned by the Havre de Grace Little League Inc. and include four baseball fields, a softball field, a tee-ball field, a refreshment stand with restrooms, and League offices and storage.

Private Marinas operate within the Havre de Grace City limits, to include the Havre de Grace Marina and Yacht Sales (with 45 boat slips) on Water Street and affiliated Log Pond Marina (68 slips) on Concord Street; Tidewater Marina located on Market Street (175 slips); and Penns Beach Marina at Heron Harbor Marina (115 slips) on Concord Street.

PRIVATE PARKS and MARINAS in Havre de Grace	
Source: City of Havre de Grace - Department of Planning	
NAME	LOCATION
Havre de Grace Little League/Stancill Park	1 OLD BAY LANE
Bayland Condominiums	100 BAYLAND DRIVE
Chesapeake Swim Club	1406 BAYVIEW DRIVE
Canvas Back Cove Condominium	FOUNTAIN & REVOLUTION STREET
Somerset Manor Playground	101 STANSBURY COURT
Seneca Pointe Condominium	OFF SENECA WAY
Grace Harbour	REMINGTON CT & CANVAS BACK DR
Bayview Estates	ROOSEVELT COURT
Havre de Grace Marina	WATER STREET
Tidewater Marina	100 BOURBON STREET
Havre de Grace Marina-Boat Slips	GIRARD STREET / CANVAS BACK COVE
Penns Beach Marina	CONCORD STREET

Other private facilities exist in neighborhoods such as Grace Harbour, Bayview Estates, or Somerset Manor with tot lots and other facilities owned by the homeowners associations and are not available for full public use. There is additionally one private pool, the Chesapeake Swim Club on Bayview Drive that offers membership participation.

Bulle Rock Golf Course, Driving Range, and Private Trail System

Identified as #1 Best Public-Access Golf Course in Maryland in Golfweek (2024), Bulle Rock Golf Course is a beautifully-appointed 240 acre golf course that opened in 1998. It was designed by famous course designer Peter Dye with a vision that it would be a world class golf course that anyone could play. Open to the public daily, it is a premier 18-hole course in the Mid-Atlantic region that includes a clubhouse, 2 putting greens, an expansive short-game practice area, and full driving range. These practice areas are available to players prior to play.



Image from Bulle Rock Golf Course website

Indoor Recreational Facilities

Havre de Grace Activity Center is a shared use activity center which is located on the Board of Education Middle School/High School Complex directly behind Havre de Grace Middle School. Completed in 2007, this project was developed through a partnership between Harford County Government, the City of Havre de Grace, and the Boys & Girls Clubs of Harford & Cecil Counties. The facility is used for recreational programs (for all ages) and offices of Harford County Department of Parks and Recreation, youth activities through the Havre de Grace Branch of the Boys & Girls Clubs, and senior programs through the Harford County Office on Aging.



STAR Centre, located on Congress Avenue, is a recently acquired City-owned property that was formerly the gymnasium and auditorium of the Havre de Grace High School. Donated to the City by Harford County Government in 2021, this facility is hosting indoor recreational activities as part of its overarching mission of providing recreational facilities in the gymnasium as well as premier concert space in the auditorium section of the building. The multi-purpose use of the space makes it an in-demand facility, offering a range of activities to include summer camps, indoor recreation, and convention-type uses. This is an excellent example of adaptive reuse of school building and is described more fully in the cultural facilities section of this chapter.

Harford County Board of Education Playfields

The City's schools, as with most of Harford County school facilities, have been developed in recognition of the "park school" concept. Presently, schools afford most of Havre de Grace's recreational outlets in terms of gymnasium space and playing fields. The outdoor school facilities such as tracks, and playgrounds can be used by the public when not needed for school activities. A wide variety of recreational programs are offered in the City for children, adults, and senior citizens through the Harford County Department of Parks and Recreation. All recreational activities are supervised by Department of Parks and Recreation staff and its extensive base of volunteers.

Meadowvale Elementary School is located on Graceview Drive on the east side of the Meadowvale Neighborhood. The total area including school buildings and parking areas is 13 acres. Facilities include a softball field, two basketball courts, and a playground.

Havre de Grace Elementary School is located on South Juniata Street and encompasses a total area of 10 acres including school buildings and parking areas. Facilities include a softball field, two basketball courts, and a two age-appropriate playgrounds.

Havre de Grace Middle School/High School Complex is a 57 acre site located between Lewis Lane to Juniata Street adjacent to the AMTRAK rail line. A beautiful, new combined Middle School/High School was opened in 2021 immediately following COVID-19 school shutdowns. The site is well-designed with pathways connecting through the middle of the property. Facilities include 4 baseball/softball diamonds, 4 basketball courts, 8 tennis courts, 3 multi-purpose playing fields, and a football stadium complex.



Aerial photo of school Middle School/High School complex, 2023

Regional Parks and Open Space

Chapel Road Park, located just outside of Havre de Grace at Earlton and Chapel Roads, is a large neighborhood park was ready for play in 2011. The site is 67 acres and includes multi-use playing fields and paved walking trail for users of all ages. It is an excellent amenity to the greater Havre de Grace region supporting programmed activities through the Havre de Grace Recreation Council.

Alfred B. Hilton Park is located on Gravel Hill Road west of the City and is within the Havre de Grace Recreation Council Area. The park is approximately 11.9 acres in size has been named in honor of Harford County's only Medal of Honor recipient, Alfred B. Hilton, who died in battle during the Civil War. The park has playground equipment and 2 playing fields and a monument to memorialize Hilton.

Susquehanna State Park is a large regional park located just north of the City and is part of the State Park System. This extensive park area incorporates vast natural areas along the western shore of the Susquehanna River and serves the Lower Susquehanna/Upper Chesapeake Bay region. It is the largest State Park in Harford County, consisting of 2,639 acres and has a boat launch ramp, fishing pier, camping and picnicking facilities, the historic Rock Run Mill, and Steppingstone Museum which is an interpretive farm and agriculture/cultural museum. Most of the parkland is forested and ranges from gently rolling hills to steep slopes and deep narrow stream valleys. The Deer Creek State Scenic River meets the Susquehanna River in Susquehanna State Park. Shoreline and small craft fishing are extremely popular here.

Swan Harbor Farm is a large regional park facility located just southwest of Havre de Grace on the Oakington Peninsula. The park contains a beautiful mansion house which is available for receptions, a stately brick-paved pathway to the shoreline with a waterfront gazebo, a 300-foot pier, large meadow areas, the main offices for the Maryland

Agricultural Education Foundation with exhibit areas for agricultural education, active farm fields, and a field

PUBLIC PARKS outside of Havre de Grace

Source: City of Havre de Grace - Department of Planning (2023)

NAME	LOCATION	ACRES	DESIGNATION
Chapel Road Park	CHAPEL/EARLTON ROADS	67	Neighborhood
Alfred B. Hilton Park	NE SIDE GRAVEL HILL ROAD	11.9	Neighborhood
Susquehanna State Park	LAPIDUM/STAFFORD ROADS	2639	Regional
Swan Harbor Farm	401 OAKINGTON ROAD	532.7	Regional
Tydings/Oakington Park	701 OAKINGTON ROAD	312.2	Regional
Mullins Park	SOUTH SIDE ROUTE 7 (POST ROAD)	251	Regional
Belle Vue Farm	415 OAKINGTON ROAD	347.4	Regional
Garrett Island	SUSQUEHANNA RIVER	198	Regional

for radio controlled aircraft. Located directly on the Chesapeake Bay, Swan Harbor Farm is owned and operated by the Harford County Department of Parks and Recreation and, combined with adjoining

Belle Vue Farm, Tydings/ Oakington, and Mullins Park, publicly-owned lands on Oakington now exceeds 1,400 acres and more than 2 miles of shoreline access along the Chesapeake Bay. Staff with Harford County Department of Parks and Recreation are currently developing a masterplan for the entire **Oakington Peninsula Park System** that includes all of the county-owned properties. The proposed uses are expected to attract users far and wide to experience the scenic picturesque beauty of the Bay while protecting the shoreline and preserving the natural history of the respective sites.

Garrett Island is a 198- acre island located close to the mouth of the Susquehanna River in Cecil County. It is part of the National Wildlife Refuge System -- Chesapeake Marshlands National Wildlife Refuge Complex and was purchased by the U.S. Fish and Wildlife service in 2005 through the efforts of Cecil Land Trust. At this time, it is considered protected lands and not opened to the public.



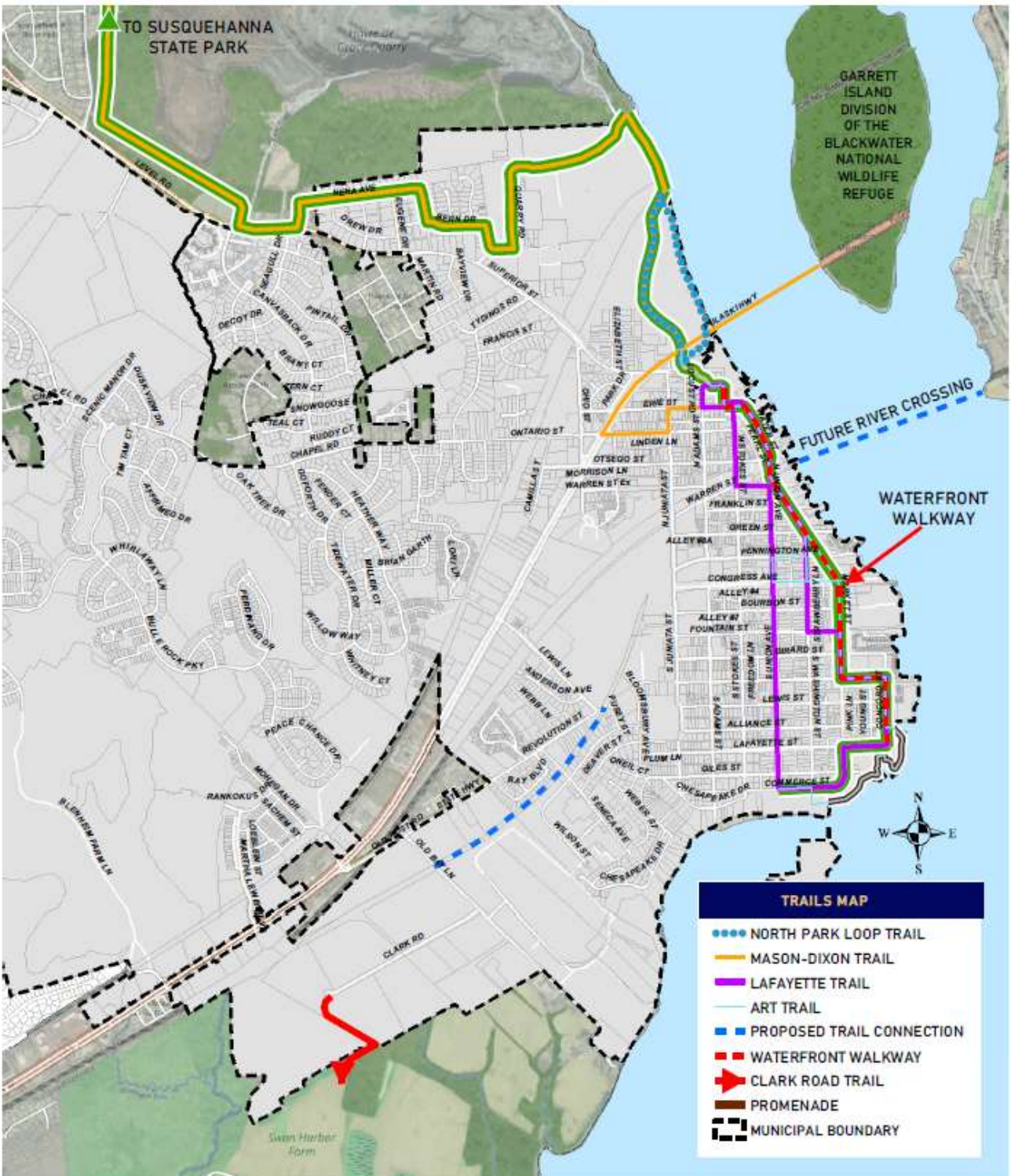
Photo of sunrise over Garrett Island courtesy of
Ed Rybczynski

[Trails that Connect](#)

The Promenade is located along the Chesapeake Bay from Tydings Park to the Concord Point Lighthouse. Approximately half a mile in length, the Promenade consists of a handicap-accessible waterfront walkway constructed of wood decking and concrete with brick inlay sidewalk, with entrances at Tydings Park, Havre de Grace Decoy Museum, Lafayette Street, and along Concord Street. Other facilities include observation decks, a gazebo at the entrance of Tydings Park, information kiosks, benches, trash receptacles, and a lighting system. The Promenade is a component of an integrated community park— along with Tydings Park and Concord Point Park — for City residents and the greater Harford County region.

Lafayette Trail was developed by the Historic Preservation Commission in 1986 to showcase some of the predominant structures in the City's National Register Historic District. Consisting of a self-guided tour utilizing a brochure or Distrix online app, the trail is approximately 3.5 miles in length and marks 57 important historic buildings.

North Park Loop Trail, a.k.a. the Joe K. Trail (so nicknamed for Joe Kochenderfer, trail steward), connects the Lock House Museum and preserved outlet lock with North Park. The City has had a lease to utilize this now Constellation-owned property since 1972 with the agreement that it can only be used for publicly accessible recreation. Portions of the trail following an old rail bed that served to construct the Conowingo Dam in the 1920s; other portions follow the Susquehanna shoreline. The LSHG and Mason-Dixon Trail are coincidental with this trail to form greater trail systems.



Lower Susquehanna Heritage Greenway (LSHG) is a project that has been under development since 1992 and consists of a series of trails beginning at the Conowingo Dam and traverses both shores of the Susquehanna River to the Chesapeake Bay. The LSHG connects a number of key cultural, historical, and natural features along the Susquehanna, such as Susquehanna State Park, Havre de Grace, and the Towns of Perryville and Port Deposit in Cecil County. All three municipalities have waterfront pathways, such as the Promenade, to lend to the connectivity of valuable waterfront areas. The trail provides recreational opportunity for residents of all ages, including walkers, joggers, and bicyclists within the region. Its national historic presence and popularity attracts visitors to experience its scenic picturesque beauty, and it is desired that the LSHG eventually have up to two river crossings to bridge the Susquehanna River, ideally with one between Havre de Grace and Perryville and the other between Susquehanna State Park and Port Deposit. Connections through Havre de Grace to the **Clark Road Trail** link the City to Swan Harbor Farm and ideally all the public lands on the Oakington Peninsula. (See Chapter, *Relationship to Lower Susquehanna Heritage Greenway*)

TRAILS in Havre de Grace

Source: City of Havre de Grace - Department of Planning (2023)

NAME	LOCATION	MILES	DESIGNATION
The Promenade	CONCORD/LAFAYETTE STREET	.5	Local
Lafayette Trail	OFF CONESTEO STREET	3.5	Local
North Park Loop Trail (LSHG)	OFF CONESTEO STREET	1.5	Local
Clark Road Trail (LSHG)	CLARK ROAD	0.3	Local
Heritage Corridor (LSHG)	WATERFRONT/OLD TOWN	1.3	Local
Art Trail	WATERFRONT/OLD TOWN	2.7	Local
LSHG	4948 CONOWINGO ROAD	21.4	Regional
Mason-Dixon Trail	QUARRY ROAD	199	Regional

Mason-Dixon Trail is a 199 mile 3-state trail system linking hiking trails and on-road segments between south-central Pennsylvania, northern Delaware, and northeastern Maryland, connecting the Appalachian Trail with the Brandywine Trail. It is a very rugged trail and not for the faint of heart. This trail system is coincidental with the LSHG through this region.

* **NEW* Art/Sculpture Trail** is incorporating public art, specifically sculpture, along the waterfront walkway to various public parks, museum grounds, and within the historic district. The Havre de Grace Arts Collective began this initiative in 2022 and it will consist of permanent as well as changing (non-permanent) sculptural pieces. The trail will be approximately 2.7 miles in length.

Havre de Grace Proposed Sculpture Trail



The proposed sculpture trail runs from North Park, the site of the Susquehanna Lockhouse Museum at the North end of the city, through the downtown business district, marked by the bronze sculpture of the Marquis de Lafayette. Following the contours of the shore, the trail continues to the large city parks near the South end of the city. The trail enters Concord Point Park, home of the "Big Fish, School of Fish" and "Birds of the Chesapeake" sculptures, follows the waterfront promenade boardwalk and ends in Tydings Park, home of the life-sized, bronze Ernest Burke memorial sculpture.



Actions for Parks, Recreation, and Open Space

- Develop an identifiable trailhead for the North Park Loop Trail and the Lower Susquehanna Heritage Greenway at the Havre de Grace Community Center located on Lagaret Lane.
- Celebrate the work done by Vulcan Materials Company in partnership with volunteers in the development of hiking trails around the perimeter of the mining operation which were opened in the spring of 2022. These trails are located in their buffer and are held in stewardship by the LSHG and Maryland Department of Natural Resources. Over the long-term, work with Vulcan to establish a hiking trail along the shoreline after mining activities at the site cease.
- Work with the State of Maryland through MDOT SHA for determining the feasibility of a safe Susquehanna River bicycle and pedestrian crossing between Havre de Grace and Perryville.
- Enhancement of the North Park Trail system should be continued as a component of the LSHG, to include increased signage for public awareness, bench seating along the trail, invasive weed eradication, and ongoing trail pathway improvements and maintenance. Seek a trail connection through Vulcan Quarry along the Susquehanna River when the quarry ceases operations.
- Continue trail development from Clark Road in the Chesapeake Industrial Park to Swan Harbor Farm, specifically with much needed wetland crossings, so that fully trail connectivity can be made to the future Oakington Peninsula Park System along the Chesapeake Bay shoreline.
- Continue to participate in the planning of the Oakington Peninsula Park System through Harford County Parks and Recreation. This significant regional park should showcase colonial history and provide an intimate wildlife refuge that encourages public access through a carefully planned trail system and features a wide range of habitats native to this area.
- Continue heritage-themed park improvements along the City's vast waterfront at both Concord Point Park at the south end with associated museums – Concord Point Lighthouse and Keeper's House, Decoy and Maritime Museums, and Moore Family Homestead -- and the Water Street Park and Lock House Museum located at the north end of the City. The City has amazing cultural resources that prior generations had the forethought to preserve. These work to anchor collective community pride and be a significant draw for heritage tourism.
- Expand David R. Craig Park under the Amtrak rail bridge to focus on the history of the City's many river crossings over time, according to the specific recommendations of the Susquehanna River Rail Bridge Advisory Board which would expand its ongoing importance in transportation history.
- Support the development of the Sculpture Trail that is being created through the Havre de Grace Arts Collective which is a local arts component of the LSHG.
- Encourage and support a private venture water-taxi shuttle service as a feature to provide access to the water as well as connect various regional waterfront assets, such as Swan Harbor Farm, Susquehanna State Park, and the municipalities of the Lower Susquehanna.
- Explore the potential for a long, offshore jetty system to provide a safe harbor environment that would serve to protect the downtown waterfront from river-related problems. A safe harbor

system would provide opportunities for wildlife refuge as well as reduce marina siltation and river-borne debris.

- Provide inviting signage that expresses available activities, hours of operation, “You Are Here” location maps, and wayside trail displays within the parks to educate visitors about a park’s history and purpose of its creation.
- Recognize the incredible waterfront recreational lands/open space that surrounds the City, with Susquehanna State Park to the north and Harford County’s preserved Oakington Peninsula Park System immediately adjacent to the south.
- Work with Harford County Department of Parks and Recreation with regard to their Parks, Recreation, and Open Space Plan to understand the region’s open space requirements and program demands.
- Review the number of baseball/softball fields, basketball courts, football fields, soccer fields, and tennis courts to determine if there is an adequate amount of these facilities based on the National Recreation and Park Standards with respect to recent population growth.

Museum, Arts, and Cultural Facilities

Havre de Grace has 7 public museums and cultural attractions open for business and a bevy of additional non-for-profit facilities that are coming online, like the Harmer’s Town Arts Center and the recently opened Arts Collective *Gallery 220*. The City is pushing itself to develop a critical mass of cultural attractions – public and private – to truly be a center for arts, culture, and entertainment within the region. Comprised of museums celebrating history and arts venues celebrating creativity, the cultural scene is taking off through the efforts of many dedicated business owners, volunteers, and staff.

Museums have been stronghold of cultural interpretation in Havre de Grace, with structures like Lock House Museum and Concord Point Lighthouse being protected early by the City through historic easements and made accessible to the public, largely through support efforts of volunteers and ‘Friends’ groups. The Decoy Museum became a mainstay and now the collection of museums include the Havre de Grace Colored School Museum and Cultural Center in 2019. As part of an identified Certified Heritage Area, the City’s cultural resources have a direct line of grant funding support through the Maryland Heritage Areas Authority, for which the City’s museums have benefitted greatly. One additional resource that is a connecting link to the Maritime and Decoy Museums is the nearby Moore Family Homestead. This is a donated site with 2 homes, one pre-Civil War and one built in an Eastern Shore vernacular style, that have historic connections to the gunning and boat building history in Havre de Grace.

MUSEUM and CULTURAL FACILITIES in Havre de Grace

Source: City of Havre de Grace – Department of Planning

NAME	LOCATION
Havre de Grace Decoy Museum	100 GILES STREET
Havre de Grace Maritime Museum	100 LAFAYETTE STREET
Havre de Grace Colored School Museum	555 ALLIANCE STREET
Lock House Museum	817 CONESTEO STREET
Concord Point Light House & Keepers House	714 CONCORD STREET
STAR Center	700 CONGRESS AVENUE
Cultural Center at the Opera House	121 NORTH UNION AVE

The arts scene is building momentum in Havre de Grace but it has always been strong, to include the Arts Commission and Havre de Grace Art Show organized by the Soroptimist International, now coming onto its 60th year. Having amazing acoustics and very high seating capacity, it is consummately appropriate that the STAR Centre became a City-owned building to be a new home of arts and theatre, as it was built by Harford County Public Schools as a showcasing theater to also be used by the public. This facility working in tandem with the more intimate Opera House as well as the privately-operated State Theater are providing unbelievable, accessible entertainment that is only possible in a more urban area. The City will continue to strengthen the Arts & Entertainment District and arts opportunities further.

Museum Description

The Havre de Grace Decoy Museum is a 15,000 square foot facility established to document and interpret waterfowl through this genuine American folk art form as it applies to the heritage of Havre de Grace and the Chesapeake Bay. After renovating the former Bayou Hotel's power plant facility, the museum which overlooks the Susquehanna River and the Chesapeake Bay opened to the public in 1986. Because of its rapid growth, the museum completed a second floor and elevator addition to achieve its present size and is now moving forward with rear additions for increased square footage. The Decoy Museum contains extensive display areas of local decoy carvers, watercraft, the R. Madison Mitchell workshop, an archival resource library, a gift shop, and conference space.

The Havre de Grace Maritime Museum was incorporated in 1988 to preserve the maritime heritage and lifestyle of the Upper Chesapeake Bay region and completed construction of a two-story building on pilings on the south side of the 100 block of Lafayette Street in 2001. The ground floor was later enclosed to create well-equipped environmental lab space for discovering the Upper Bay and its resources. This museum is situated between the Decoy Museum, Concord Point Lighthouse, and the Keeper's House making a wonderful complex of related water-focused museums. The museum sponsors lectures on local maritime-related topics and provides educational programs on maritime history and Bay ecology.



Havre de Grace Colored School Museum and Cultural Center, a relatively new museum, is located in the former Havre de Grace Colored High School (c. 1930 brick portion) and earlier frame grammar school (c. 1910). Having been converted to medical offices, the building was acquired in 2019 with a mission to remember, promote, and preserve the history and legacy of the Havre de Grace Colored School and the community that it touched. The building is undergoing dramatic interior restoration to bring back the elements of the building as a school so that its history can be experienced more authentically. The Havre de Grace Colored School Foundation hosts annual events of an Arts, Wine, Jazz & Soul Festival and the Langston Hughes Youth Oratorical Contest to support its mission and extend it to the broader community.

The Lock House Museum is located in the historic lock house toll collectors building at the southern terminus of the Susquehanna and Tidewater Canal near Erie and Conestogo Streets. The museum was incorporated in 1972 as the Susquehanna Museum at the Lock House with a mission to collect and preserve the history of Havre de Grace and its people, with special emphasis on the southern terminus of the canal. The museum restored the 1840-era Lock House located within North Park, later restoring the outlet lock and reconstructing the pivot bridge on the grounds to safeguard and interpret the site within Havre de Grace's history. In 2020,

the museum changed its name to the Lock House Museum – as it has always been referred – and focused its mission to showcase the impact of the Susquehanna & Tidewater canal on the region.

Concord Point Lighthouse and Keeper's House are among the most interesting and unique historic structures in Havre de Grace. Built at a cost of \$3,500 in 1827 by John Donohoo, this thirty-seven foot stone masonry structure is the oldest, continuously operated lighthouse in the State of Maryland. The non-profit Friends of Concord Point Lighthouse, Inc. have been maintaining the lighthouse and its grounds, located east of the intersection of Concord and Lafayette Streets, on behalf of the City since 1979. The Friends were also instrumental in the restoration of the Lighthouse Keeper's house across the street which was built in 1829. The complex serves as a period museum.



Arts and Cultural Facilities

Havre de Grace Arts Collective is a non-profit organization which includes the Havre de Grace Arts & Entertainment District, the *Arts by the Bay Gallery* artists' cooperative, the Havre de Grace Public Art Committee, and *Gallery 220* which opened Spring, 2023. This collaboration of effort is driving arts in Havre de Grace in a unique way, bringing curated exhibitions and arts programming that educates, empowers, and entertains the community. As part of their mission, they are developing a sculpture trail within the City.

Harmer's Town Art Center will be an indoor creativity incubator and arts center with an adjoining outdoor interactive art park with pathways, performance areas, and outdoor seating. This nascent arts center operates under a non-profit 501(c)(3) for fundraising and grant-funding and will provide studio space, classrooms, and makerspace with specialized equipment for woodworking, ceramics, and other fabrication crafts. The outdoor Graw Alley Park is anticipated to open in 2023.

The STAR Centre at 700 Congress Avenue is the primary indoor cultural facility for the City hosting sports, theatre, arts, and recreational events, thus its name. Located in the former Havre de Grace High School and accessed from Congress Avenue, the auditorium has excellent acoustics, viewing, and stage area capacity with seating capacity for 900+ people. Facilities include the theatre space, large and small gymnasium areas, and support rooms which can be combined for convention-type uses. This is a very recently acquired City-owned facility with its first year of operations in 2022 hosting concerts, theatre, dance performances, variety shows, sporting events, lectures, workshops, summer camps, and innovative educational opportunities.

The Cultural Center at the Opera House located at 121 North Union Avenue is a c. 1871 theatre and arts venue that provides an intimate setting for seeing smaller musical groups, shows, films, and lectures within the City's Arts & Entertainment District. Elevator access and life safety improvements were made to this historic Opera House which included a two-story atrium addition that connects this building to the adjacent Fire House #2 (also historic). The second floor theater space provides seating for 200 with state-of-the-art lighting and sound systems. For over thirty-five years, this building had been home to and maintained by the Tidewater Players who stayed true to the purpose of bringing excellent community theatre to Havre de Grace. Through major fundraising efforts and a voter referendum for bond funding, the refurbished Opera House reopened late summer 2017.

Actions for Museums, Arts, and Cultural Facilities

- Support the implementation of the various museums' development plans, as the museums are very important attributes within the City in terms of cultural recollection, education, and archival knowledge.
- Support the professional staff members and large base of volunteers for each museum as they carry out the missions of their respective museums and safeguard the City's cultural heritage.
- Support the Havre de Grace Museum Association in its ability to work collectively for integrated cultural programs for tourists, school children, and residents of the City and Harford County.
- Support the creation of a Havre de Grace Museum that speaks to the City's overall history, whether through the Moore Family Homestead, Harmer's Town Art Center, or other appropriate location.
- Continue to support the advertisement of the museums and their programs through staff and volunteers at the Havre de Grace Visitor Center, which is a hub of relevant regional tourism information.
- Support the concept of more special driving tours with on-board guides and for specially trained docents for walking tours and building tours, set up for special hours and publicized.
- Continue to provide funding for the maintenance of the mission of the museums within the City, as they provide stewardship to important City-owned historic structures.
- Support the development of an art/sculptural trail throughout the City which connects historic and cultural resources within the Sustainable Community area.
- Continue the City's focus on arts and culture through support of the many private and non-profit arts organizations, whether the Havre de Grace Arts Collective, the former Arts Commission, the private State Theater, or Harmer's Town Art Center. These resources create a vibrant arts scene that continues to gain momentum.
- Continue to develop the STAR Centre combined with the Cultural Center at the Opera House to strengthen the City as a theatre, arts, and entertainment hub.

Public Schools

The Harford County Board of Education administers the public educational system in Havre de Grace, thus improvements of these facilities depends on this county-wide board. Havre de Grace currently has 3 public schools serving its needs: 2 elementary schools (pre-kindergarten to 5th grade) and 1 combined middle school (6th through 8th grade) and high school (9th through 12th grade). The elementary schools serving the Havre de Grace region are Havre de Grace and Meadowvale Elementary Schools. Opened in 1950, Havre de Grace Elementary is located at the intersection of Juniata and Revolution Streets on the edge of the historic district. Meadowvale which opened in 1959 is located just off of MD 155 on Grace View Drive. Due to the need for balancing enrollment, Royce-Williams Elementary School located on Oakington Road between Aberdeen and

Havre de Grace will also be part of the elementary school system supporting students within Havre de Grace. The small rural Darlington Elementary is a feeder school for Havre de Grace Middle/High School.

Havre de Grace Middle/High School is a recently-constructed facility that replaced two outmoded secondary school buildings. Opened in spring of 2021 following the COVID-19 shutdown, the building is designed to maximize solar efficiency and was LEED certified as Silver by the U.S Green Building Council in September 2021. The facility and the grounds were designed to take into account the walkable nature of this centralized school within the community, with walking paths that bisect the property (and lead straight through the building) and efficiently reconfigured playing fields. This Middle School/High School complex is truly a point of pride for Havre de Grace.

In accordance with the Harford County Adequate Public Facilities (APF) provisions of the Harford County Code (§267-126), the adopted adequacy standard for Harford County Public Schools (HCPS) is for projected enrollment not to exceed 110% of the State Rated Capacity (SRC) within three years for both elementary and secondary schools. The City has its own APF regulations that mirror Harford County's which was adopted in 2020. Due to the development in Havre de Grace over the past two decades, school enrollment has increased substantially in all schools, but specifically within Havre de Grace Elementary School. Within the next three years, that school is expected to exceed the 110% SRC.

Because of expanded enrollment and with area schools being over capacity, HCPS began a process of balancing enrollment (i.e. redistricting) in 2019 to redistribute students based on geography. Many of the boundary refinements are in the Havre de Grace and Aberdeen areas due to this region's residential growth. Slight changes to secondary school boundaries took effect in 2023-2024 school year where a portion of Bulle Rock on the golf course (an area not yet built) is now redistricted to Aberdeen Middle and High Schools. Changes to elementary school boundaries were anticipated to go into effect for the 2026-2027 school year where enrollment gets rebalanced between Meadowvale, Havre de Grace, and the Royce-Williams Elementary Schools. However this process will be delayed due to county-wide redistricting related to land purchasing issues.

*BALANCING ENROLLMENT
HARFORD COUNTY PUBLIC SCHOOLS
Please see the Harford County Public Schools website for
the planned implementation and timing.*

As the City continues to grow and develop, it will continue to attract families of various age groups throughout the next 20 years. Rebalancing enrollment for both elementary and secondary education was very timely as the City continues to expand westward towards Aberdeen and the Oakington Peninsula. It is imperative that the growing municipalities work with HCPS within the balancing enrollment process. Proper planning and foresight now can ensure that Havre de Grace continues to be an accessible place which provides excellent educational opportunities for residents and dynamic recreation within the City for generations to come.

Public School Facilities: Pre-Kindergarten through Grade 12

Havre de Grace Elementary has a rated capacity for 542 students and is currently operating at 104%, based enrollment for the 2022-2023 school year. The school is located in the Old Town area and is walkable by many neighborhoods in the vicinity. To a large degree, it serves the historic areas south of US 40, the Bulle Rock community and Greenway Farm neighborhood. Over the next 3 years, the school is predicted to be at 110% capacity. This has triggered the need for balancing enrollment actions by HCPS between neighboring elementary schools.



Meadowvale Elementary is similarly-sized with a 568 student capacity and is operating at 95% capacity with slight increases over the next 3 years to 99% capacity. It is located within the Meadowvale community and also serves Havre de Grace Heights, Grace Harbour, and Bayview Estates as well as the outlying rural areas beyond city-limits. Both Havre de Grace and Meadowvale are operating near the 110% capacity and three-year projected capacity requirements to meet Harford County's Adequate Public Facilities law for limiting residential growth².

Roye-Williams Elementary is larger than the in-town elementary schools with a capacity of 703 students and it is currently operating at 63% capacity. Originally built as Havre de Grace Consolidated School in 1953 to provide grades kindergarten through 12th for African-American students prior to desegregation. It was converted into an elementary school (similarly to Hickory Elementary near Bel Air) after 1965. The school is sited on a beautiful rural road on the Oakington Peninsula between Aberdeen and Havre de Grace.

Havre de Grace Middle/High School

The main secondary school serving Havre de Grace is the new combined Middle/High School which opened in 2021. Both middle school and high school are within one building and have a current capacity of 1,597 students collectively. Projected enrollment in the next three years is expected to increase to only 94% for the 2025-2026 school year, with steady growth in subsequent years.

Table 5.1 indicates the current utilization, capacity, and projected enrollment of each of the schools over the next three school years. This table ends at the school year 2026-2027, which is the anticipated timeframe for elementary school redistricting, as per the HCPS website. Projected enrollment Capacity for these facilities are small compared to Harford County as a whole; Havre de Grace secondary school capacity are half the size of many of the county's large schools, such as Bel Air, Southampton, C. Milton Wright, or North Harford. This makes for a very personalized setting and great teacher to student ratios.

² 2022 Harford County Government Annual Growth Report, Department of Planning and Zoning

TABLE 5.1
HAVRE DE GRACE AREA SCHOOL CAPACITY, CURRENT AND PROJECTED ENROLLMENT

SCHOOL CAPACITY and PROJECTED ENROLLMENT									
<i>Source: Harford County Public Schools & Department of Planning and Zoning - Amendment to 2021 Annual Growth Report (December, 2022)</i>									
SCHOOL	State Rated	Actual 2022-2023	% of Capacity	Projected 2023-2024	% of Capacity	Projected 2024-2025	% of Capacity	Projected 2025-2026	% of Capacity
Havre de Grace Elementary	542	566	104%	574	106%	584	108%	598	110%
Meadowvale Elementary	568	541	95%	548	96%	556	98%	564	99%
Havre de Grace Middle/High	1,597	1,444	90%	1,498	94%	1,506	94%	1,506	94%
Roye-Williams Elementary	703	443	63%	450	64%	442	63%	448	64%
Darlington Elementary	157	100	64%	101	64%	101	64%	101	64%

Balancing Enrollment

For the 2026-2027 school year, HCPS anticipates implementing their plan for balancing enrollment for elementary schools. With these adjustments, Havre de Grace Elementary will operate at 90.6% capacity; Meadowvale will be at 99.6% capacity; and Roye-Williams will be at 85.7% capacity according to HCPS based on the proposed new boundaries. It is anticipated that Havre de Grace Middle/High School will continue to operate from 93 to 95% capacity beyond the 2026-2027 school year. Detailed information on the 2026-2027 school year redistricting for elementary schools can be found on the HCPS website, to include maps and estimated number of students who will be affected by potential redistricting changes.

Higher Education

Within Harford County, Harford Community College (HCC) is an accredited 2-year college that addresses the diverse educational needs of the City's residents locally. HCC was founded in 1957 and occupies a 352-acre site on Thomas Run Road, ten miles west of Havre de Grace. HCC is an open-access institution that offers 140 + affordable degrees, certificates, and career and workforce programs and is centrally located within Harford County to be accessible by Harford Transit Link local bus service.

HCC provides a vibrant campus setting with 24 buildings – many of them state-of-the-art – and 5 miles of trails. Program highlights are accredited nursing, histotechnology, paramedic, and paralegal as well as a Center for Cybersecurity which has been designated as a National Center of Academic Excellence by the National Security Agency and Department of Homeland Security. HCC's north campus is the center for a 2+2 program in partnership with Towson University for 4 year degree programs in education. The extensive grounds include a mansion built in 1808, the Hayes-Heighe House, which was the two-story stone farmhouse on the original Prospect Hill Farm.

Actions for Schools

- Support Harford County Public School staff and the Harford County Board of Education in their service in bringing excellent public education to the County's school children.
- Work closely with Harford County Public Schools in their balancing enrollment efforts to address school capacity issues as related to residential growth, specifically as related to Roye-Williams Elementary School where both Aberdeen and Havre de Grace are presuming capacity for redistricting due to its location and the fact that it is currently under capacity.

- Advocate at the County level – with Harford County Public School staff and the Harford County Board of Education – for increased coordination and for more school capacity at both the elementary and secondary levels as the municipalities continue to grow as population centers.
- Work with Harford County Public Schools for identifying locations within the Havre de Grace/Aberdeen area for siting a new elementary school to accommodate continued residential growth. In addition, explore expansion of secondary schools as part of the long-term needs of these growing communities within the Development Envelope.
- Work closely with Harford County Public Schools in any facility upgrades that they may perform within the local community.
- Enhance sidewalk connections to and from the Havre de Grace Middle/High School complex, specifically with regard to crosswalks, so that they may be properly marked and ideally signalized for safety.

Public Buildings

As an autonomous municipality, Havre de Grace controls many of its own public buildings for government purposes like City Hall, staffs its own Police Department, and operates its own public works facilities like its water and wastewater treatment plants. The City has also taken on its own Visitor Center which is staffed with a manager and supported by volunteers as well as the STAR Centre and Opera House which are described in the Museums and Cultural Facilities section of this chapter. Many buildings, however, are owned and operated by at the county-levels, such as the public schools and libraries, or the federal-level like the US Post Office. This section describes these facilities, providing an overview of the wealth of public buildings from which Havre de Grace receives benefit.

Due to good planning and good luck, the City has a great majority of its public buildings centrally located within the City, making them easily accessible to both older and newer communities. The location of many of the facilities outlined in this section and in conjunction with the Havre de Grace Middle/High School complex creates a strong, identifiable ‘civic hub’ of activity which will prove advantageous in terms of convenience, efficiency, and enhancement of the appearance of the community. This works in tandem with the identified ‘civic spine’ which was part of the Havre de Grace Restoration Plan design charrette with Toole Design Group for Pennington Avenue from Juniata Street to N. Washington Street.



The concept of a civic spine is to link public buildings and civic uses in an identifiable way along the Pennington Avenue from the Havre de Grace Middle/High School complex and recreation area to the downtown Main Street district.

Public Buildings Description

Harford County Public Library, Havre de Grace Branch, located at 120 N. Union Avenue, opened in 2016 and is approximately 21,000 square feet in area. This library has approximately 36,000 volumes available for circulation with 1 million volumes available county-wide. Harford County Public Library buildings are owned by Harford County Government. Library resources are available through all branches of the Harford County Public Library, which includes 11 locations plus headquarters.

The Havre de Grace Branch held more than 340 events with more than 61,680 in attendance in Fiscal year 2022. These classes, workshops, programs and activities ranged from technology classes for adults through curriculum based story times for our youngest customers and their families. The branch also provides workspace for workforce development including job search skill training, basic computer instruction, workplace literacy, and online classes for workforce preparation, resume writing, test taking, SAT Prep, GED Prep, software certificates and more. Also available is online tutoring for students and language learning courses as well as STEM activities for children and teens in Lafayette's Landing. Lastly, the Preschool Learning Center called Schooner Cove provides activities for pre- and early literacy skill development.

Havre de Grace City Hall, located at 711 Pennington Avenue, was constructed in 1992 and opened in March of 1993 with a major expansion completed in March 2002. Havre de Grace City Hall is the main government building for the City, and holds activities for the City's elected Mayor and City Council and all administrative functions. Public areas consist of reception, bill payment, and permits areas, Council Chambers, and conference room. Administrative offices for the Mayor and City Council and Departments of Administration, Public Works, Finance, Economic Development, and Planning are located in this building.

Havre de Grace Visitor Center opened in 2002 in the former Police Department building located at 450 Pennington Avenue. Staffed with a tourism manager and 18 volunteers, this facility provides a location for information for visitors to Havre de Grace through printed material, staff, and volunteer staff assistance. The Havre de Grace Visitor Center is a platform for promoting the City's and the surrounding region's many attributes and provides a box office for the STAR Centre and ticket sales for many of the City's non-profit events. Annual number of visitors is 5,700 from 32 states and 12 countries.

Havre de Grace Community Center, located on Lagaret Lane, is an 11,000 square foot building situated on approximately 53 acres of City-owned land in the northeast corner of the City. Originally built by the Havre de Grace Law Enforcement Association, Inc. to serve as a police training center and community facility, this building was turned over to the City in 1995. The building consists of a banquet/conference room that can accommodate up to 600 persons, a small meeting room, restrooms, and commercial kitchen facilities. Located on the property are 3 recently constructed pickle ball courts and the **K9 Cody Dog Park**. To the rear of the property is the adjacent reservoir with Havre de Grace Green Team community gardens and spectacular views of the Susquehanna River. Combined, these properties should be considered for park-like improvements as a trail-head for Lower Susquehanna Heritage Greenway. Neighborhood connections and an internal circulation loop would provide needed parkland that connects with Meadowvale and adjoin, increasing the overall quality of life for residents and be an attraction for visitors.

Havre de Grace Activity Center, opened in 2007, is owned and operated by Harford County Department of Parks and Recreation and houses dedicated space for the Havre de Grace Recreation Committee, Harford County's Office on Aging, and the Boys & Girls Clubs of Harford & Cecil Counties. Central within the City, it is conveniently located adjacent to the Havre de Grace Middle/High School and within walking distance of many neighborhoods. Amenities include a full-sized gymnasium, fitness room, computer room, billiards room, meeting room, and multiple spaces for all-age recreational activities.

United States Post Office, Havre de Grace Branch is a 16,100 square foot brick structure located on the northeast corner of Green and Juniata Streets. Built in 1996, this structure consists of a postal retail store and large postal handling operation and serves City and rural areas of the 21078 zip code.

PUBLIC BUILDINGS in Havre de Grace	
Source: City of Havre de Grace - Department of Planning	
NAME	LOCATION
Havre de Grace Library	120 NORTH UNION AVENUE
Havre de Grace City Hall	711 PENNINGTON AVENUE
Havre de Grace Visitor Center	450 PENNINGTON AVENUE
Havre de Grace Community Center	100 LAGARET LANE
Havre de Grace Activity Center	351 LEWIS LANE
Havre de Grace Police Department	715 PENNINGTON AVENUE
US Post Office	301 NORTH JUNIATA STREET
Susquehanna Hose Company 1	451 NORTH JUNIATA STREET
Susquehanna Hose Company 2	125 NORTH UNION AVENUE
Susquehanna Hose Company 3	301 MARKET STREET
Susquehanna Hose Company 4	911 REVOLUTION STREET
Susquehanna Hose Company 5	1542 CHAPEL ROAD
Water Treatment Plant	414 SAINT JOHN STREET
Wastewater Treatment Plant	JERRY FOSTER WAY
Department of Public Works	JERRY FOSTER WAY

Fire Protection in the City is provided by the Susquehanna Hose Company (SHCO), an all-volunteer company with over 120 active volunteers and 19 fire line officers spread throughout 5 divisions at 5 station locations. The Harford County Fire & EMS Association determines policy and governs operations of the 12 all-volunteer fire and EMS organizations within Harford County. SHCO is unique in some of its equipment and rescue abilities, to include a fire boat for water-related emergencies and an air boat for shallow water use. Equipment includes a heavy rescue truck, 5 engines, tower, quint, 2 boats, and 4 utility vehicles.

SHCO is classified with a Class 1 ISO rating, an impressively high mark for an all-volunteer fire department³, placing the City's fire response in the top 1% of the country. The City has approximately 600 fire hydrants spaced throughout the City compared to 233 in 2010. The existing fire stations are well dispersed throughout the City and are sufficient in terms of building space and ability to effectively and efficiently serve the community.

- **Fire Station #1** consists of two bays and is located on the southeast corner of Warren and Juniata Streets. This building was constructed in 1982 and has the capacity to house two fire department vehicles, office space, and modern communications equipment.
- **Fire Station #2** consists of a single bay and is located at the intersection of Pennington and Union Avenues. The original portion of this building was constructed as a small public schoolhouse in 1822 and expanded to the north with equipment bay and second floor meeting space added in the early twentieth century.
- **Fire Station #3** consists of two bays and is located at the intersection of Fountain and Market Streets. This single-story building, which replaced the original structure in 1989, also contains a training room with seating for fifty, lounge with a kitchenette, and offices.
- **Fire Station #4** consists of three bays and is located at the corner of Revolution Street and Bloomsbury Avenue. Built in 1994, in place of the original one bay structure, this station serves as the headquarters for the Susquehanna Hose Company. In addition to the bays, the building contains offices for both administrative and line officers, a board room, lounge, and a 1,000 square foot meeting room with kitchen facilities.
- **Fire Station #5**, which is the newest station built in 2002, consists of three equipment bays and is located on Chapel Road near Bayview Estates. It is a single-story structure with a crew kitchen and recreation room for its volunteers.



³ From <https://www.powerdms.com/policy-learning-center/iso-ratings-for-fire-departments>: ISO stands for Insurance Service Office which scores fire departments on how they are doing against its organizations standards to determined property insurance costs. The higher the ISO fire protection class (with Class 1 being the best), the better the department.

Emergency Medical Services/Ambulance Services are provided by the Havre de Grace Ambulance Corps with facilities located on MD 155 across from the community of Grace Harbour. The Havre de Grace Ambulance Corps is an organization responsible for 911 emergency medical and trauma responses within the Havre de Grace region, with 2 full-time ambulances stationed here. Over 60 volunteers provide emergency medical response, to include a paramedic unit. The Ambulance Corps is separate from the SHCo fire department and is the only EMS station in Harford County. The building consists of a 5 bay equipment area, 2 large meeting rooms, and commercial kitchen. The volunteer emergency response fire and rescue units are well coordinated in Harford County and are dispatched from the Emergency Operation Center located in Hickory near Bel Air. Beginning in 2024, the SHCo began housing EMS services for Harford County Government, representing a significant shift in how EMS services are provided for the community. Public trail connections through the property were completed in spring of 2022 behind the pavilion as part of LSHG and Mason-Dixon Trail network.



Police Protection is provided through the Havre de Grace Police Department located on the corner of Pennington Avenue and Juniata Street. This 10,000 square foot Police Department building was opened and became operational in January 2001. The building is equipped with: auxiliary generators for emergency power to continue police and government functions; radio capabilities to operate the Police Department and the City's Department of Public Works, and communicate with other law enforcement agencies; a community meeting room which can be converted to an emergency operation center in the event of an extreme emergency or natural disaster; and intra-fiber-optic network with access to high speed internet cable. A police shooting range with observation tower is situated on James Earl Walker Drive near the main entrance to Vulcan Quarry.

The Police Department is comprised of 3 Department Divisions: Administrative, Patrol, and Criminal Investigations. The Department consists of 45 employees, with 36 sworn officers and 9 civilian personnel. Each officer is equipped with body worn cameras prior to the 2025 mandate. By summer 2023 all patrol vehicles will be equipped with mobile data terminals further enhancing their ability to process citations. Havre de Grace was the first agency in Harford County to implement School Resource Officers in all schools within the City's jurisdictional boundaries, including elementary schools. In 2018, a recognition of community safety by the forum Mothering (mothering.com) ranked Havre de Grace as the 4th safest city in the nation to raise a free-range child. In addition, the Havre de Grace Police was the only Harford County agency to receive a better than 90% overall satisfaction rating in all categories in a 2021 citizen survey.



Department of Public Works

Public facilities staffed by the Department of Public Works (DPW) are integral to City's operation and include: treatment of surface water from the Susquehanna River as its public drinking water source; collection and treatment of municipal wastewater; fleet maintenance; parks and facilities maintenance; marina management; streets, roads and water/sewer infrastructure repair; and solid waste contracting for

household refuse and recyclables. DPW has a total of 53 employees covering all these needs to keep the City operational.

- **Water Treatment Plant** is a 4 million gallon per day (mgd) capacity treatment plant located on St. John Street in the Main Street district. It is a Class 4 treatment plant as categorized by the Maryland Department of the Environment and is staffed by 9 employees, operating 24 hours a day. Currently, the plant treats approximately 1.6 mgd. The plant underwent a major upgrade which was completed in November 2022 and is now SCADA controlled, meaning it is an automatic computer-controlled system. Immediately adjacent is a Harford County sister plant which uses the Susquehanna River as a back-up water source.



- **Wastewater Treatment Plant** is located on City-owned property adjacent to the Chesapeake Bay and the Maryland National Guard Reservation. It is a Class 5 Enhanced Nutrient Removal (ENR) plant and treats approximately 1.7 gallons of effluent per day. As part of the wastewater system, there are 10 sewer pumping stations distributed throughout the City, with 2 main ones located on Erie Street and Lafayette Street. Eight employees operate the wastewater treatment facility, which also runs 24 hours a day. In 2010, the WWTP was recognized by the Maryland Rural Water Association as Wastewater system of the year for its early ENR upgrades. City staff have applied and received Chesapeake Bay Restoration Fund grants every year since 2010.



- **DPW Shop** is located on Jerry Foster Way adjacent to the Maryland National Guard Reservation and the Havre de Grace Wastewater Treatment Plant. The shop building consists of a 4,000 square foot repair garage and storage building with office space and locker room, a 3-pump gas facility, an open storage area for construction materials and salt dome located on the WWTP property, and a parking area for the Department of Public Works vehicle fleet. Staff here maintain the City's fleet of vehicles for Police Department, DPW, and City Hall use.
- **DPW Building and Storage Facility**, opened in 2005, is located on the same campus as the DPW Shop and adjacent to the Wastewater Treatment Plant. This building complex provides offices, support, and storage facilities, 5 material bins, and a vehicle wash area with separator. Twenty-two DPW employees operate from this location as well as Code Enforcement through the Department of Planning.

Actions for Public Buildings

- Support and strengthen the concept of a civic spine located along Pennington Avenue, connecting the Havre de Grace Middle/High School complex and the Havre de Grace Activity Center owned by Harford County with all civic uses along Pennington -- including the STAR Centre and the Opera House -- with the downtown Main Street District. Develop this planning concept through signage and cohesive pedestrian connections and highlight it as a common core that contributes to the City's sense-of-place and community.

- Continue the ongoing maintenance of facilities and equipment to keep them in good order so that City government can continue to serve its constituents in an efficient and productive manner.

Health Services

Havre de Grace is situated between major metropolitan areas that offer excellent health care options and easy accessibility to world-renowned medical specialists. Large hospital systems within close proximity to the City include University of Maryland Medical System, MedStar Health, and Johns Hopkins in the Baltimore region within an easy 30-mile drive to the south and ChristianaCare system to the north in the Wilmington region. Changes in health care delivery has occurred locally, with the closing of UM Harford Memorial Hospital (UM HMH) in Havre de Grace and the opening of UM Upper Chesapeake Medical Center Aberdeen (UM UCMC Aberdeen) in February 2024. Included in these changes were the expansion of behavioral health at the Aberdeen location and consolidation of acute care services at UM UCMC in Bel Air. UM UCMC Aberdeen is a certified acute-stroke ready center.

Residents of Harford County are fortunate to have a state-of-the-art acute care hospital and supporting medical facilities at the Bel Air location. The nearby Aberdeen Freestanding Medical Facility (FMF) provides emergency services, imaging, outpatient services, and an entire behavioral health hospital within the newly constructed main building. Additional medical services at the Aberdeen campus include a Health and Wellness Center, hematology/oncology with a fully-equipped infusion center, and imaging services. Supporting and strengthening the community medical system are incredibly important as a mainstay in a community's quality of life but particularly when it comes to emergency care.

The dynamic of this changing health care delivery within Harford County has significant impacts for Havre de Grace, with the City having had the presence of Harford Memorial since 1912. The transition has not been easy and, from a land use perspective, a major factor in the City's built environment in the near future will be the redevelopment of the UM HMH site after the hospital's closing. To that end, the Department of Planning is proceeding with getting outside consultant assistance with developing new zoning requirements for its redevelopment so that it can be a focal point of pride within the City's National Register Historic District.

UM UPPER CHESAPEAKE HEALTH
For all information related to hospital services within Harford County, please see the University of Maryland Upper Chesapeake Health website.

Behavioral health and drug treatment are integral to facility evolution within Harford County and recent development of facilities for these needs are addressed in this section. This includes The Klein Family Harford Crisis Center as well as the facilities that will be offered through UM UCMC Aberdeen as primary service providers for these important and often overlooked health needs. In addition, 2 nursing care facilities are briefly described, outlining the complement of health-related services available within Havre de Grace.

Health Care Facility Description

UM Upper Chesapeake Medical Center Bel Air includes the hospital facility itself, the Kaufman Cancer Center, Klein Ambulatory Care Center, and an Advanced Outpatient Surgery Center which will be opening spring 2024. The campus is centrally located in Bel Air on MD 24 and McPhail Road. Recent improvements include

emergency department renovations and expansion and the construction of 3 additional floors for a patient bed tower adding 72 patient beds⁴ due to the consolidation of acute care services at the Bel Air location.

UM UCMC is described as a 174-bed acute care hospital⁵ offering a 24-hour visitation policy, medical and surgical inpatient services, pediatric services, obstetrics through the Family Birthplace, emergency department, intensive and progressive care units, surgical services, dialysis, cardiopulmonary, imaging, and rehabilitation services. The Ambulatory Care Center of Harford County houses the Heart and Vascular Institute and Harford Surgery Pavilion as well as ambulatory care imaging services and diagnostic testing. Multi-specialty surgeries not requiring a hospital stay are performed in the Surgery Pavilion of this building.

UM Upper Chesapeake Medical Center Aberdeen is located on MD 22 and McHenry Road in Aberdeen and is replacing UM HMH. This facility was developed as a freestanding medical facility with a separate behavioral health hospital for addressing mental health and addiction. The campus features a newly constructed medical center with helipad, emergency department with 20 treatment bays (2 of which are resuscitation/trauma bays), behavior health emergency and inpatient hospital. Physician specialties include cardiology, hematology/oncology, orthopedics, physical therapy, primary care, imaging, infusion center, and wound care, according to their website.⁶

The Klein Family Harford Crisis Center is a public-private, integrated system of behavioral health care addressing mental health and addiction in Harford County. It offers immediate access to care in a safe and comfortable setting and coordination of services strengthening the path to recovery and wellness. The Center provides 24/7 crisis hotline and mobile crisis response, a walk-in urgent care clinic and scheduled outpatient services (for children and adults), short-stay residential services for adult guests requiring an extended period of concentrated care.⁷

MedStar Health Medical Center at Bel Air Medical Campus is located just south of Bel Air on MD 924 and Plumtree Road. It is a medical center that offers urgent care, orthopedics, physical therapy, pediatrics, a comprehensive cancer center, imaging and lab services.⁸ It is part of MedStar Health, the largest health system in the region, and is connected to that network of physicians, services, and locations.

Private Offices, Medical Facilities, and Services in the City have been generous, especially for a municipality of this size and population. Havre de Grace has approximately forty private practice medical and dental offices as well as mental health counseling and addiction services. Historically, these offices were centered around UM Harford Memorial Hospital but many have migrated to newer facilities nearer to US 40. While primary care and preventive medicine are often provided by private physicians, there are 3 Urgent Care facilities within City-limits. Numerous specialist practices are available to include orthopedics, ophthalmology, pediatrics, gastroenterology, obstetrics/gynecology, dermatology, podiatry, hearing specialists, physical therapy, chiropractic medicine, and acupuncture.

⁴ According to information on <https://www.umms.org/uch/patients-visitors/construction-updates>

⁵ P. 12 October 28, 2022 Consolidated Financial Statements and Supplementary Information at : <https://hsrc.maryland.gov/Documents/Hospitals/ReportsFinancial/Audited/FY%202020/UMMS%20FY%202020%20AFS.pdf>

⁶ From UMMS website: <https://www.umms.org/uch/patients-visitors/construction-updates>

⁷ This description is taken directly from the Crisis Center website at: <https://harfordcrisiscenter.org/>

⁸ From MedStar Health website: <https://www.medstarhealth.org/locations/bel-air>

Citizens Care Center is a non-profit, comprehensive nursing care facility located on Market Street near the City's waterfront. As a nursing care facility, Citizens Care Center provides 24-hour long-term care and can accommodate up to 180 residents. In addition, it provides shorter-term services for occupational, physical, and speech rehabilitation. The modern facilities include private and semi-private rooms, planned activities, and a fully-equipped pharmacy.

Lorien Bulle Rock is a private nursing care facility for seniors in need of skilled nursing, rehabilitation, and long-term care. It is located at 1501 Blenheim Farm Lane near the entrance to the Bulle Rock Golf Course at US 40.

Actions for Health Facilities

- Continue to support the strong community health services provided by UM Upper Chesapeake Health with facilities located in nearby Aberdeen and a wide range of services and acute care at the Bel Air location.
- Continue to support local medical providers, as they provide much needed services here and are a tremendous asset to the City.
- Communicate with UM Upper Chesapeake Health with regard to their long-term planning for hospital capacity needs analysis as population along the US 40 Corridor continues to grow.

13. HOUSING

INTRODUCTION

House Bill 1045 (2019) requires all Maryland jurisdictions to have a Housing Element included in their Comprehensive Plans. On the heels of that requirement in 2021, House Bill 90 requires that local jurisdictions have a duty to affirmatively further fair housing. The Maryland Department of Planning (MDP) has developed a set of Models & Guidelines to assist communities in creating this chapter and in addressing House Bill 1045. They have also created a webpage to help guide communities through the technical aspects of the housing element.

Housing planning for these purposes looks more directly at affordable housing planning, where the Municipal Growth Element provides for locating the most ideal locations for future residential land uses. The entire plan shares many common threads and should overlap. For instance, the analysis to determine the most appropriate locations for future growth have a lot of commonalities in providing the best location for housing where costs can be kept to a minimum, such as the availability of transit services and infrastructure.

Affordable housing can come with a stigma that goes along with housing projects and the problems concentrated poverty can cause in a community. For purposes of this chapter, the City will focus on ways to enhance housing for low- to moderate-income (LMI) households. The generally accepted definition for housing affordability is maintaining housing costs below 30% of a household's gross income. LMI includes all households making between 60% and 120% of the area median income (AMI). AMI is defined as the midpoint of Harford County's income distribution for purposes of this section. With these affordability and income parameters in mind, the following sections will utilize MDP's Models & Guidelines for affordable housing to help examine the City's affordable housing needs.

"Inclusivity for ALL classes of people and buildings. A mix of eclectic buildings and people should be maintained to encourage a vibrant connected community while embracing that small town feel"

- Comprehensive Plan 2022 StoryMap Survey Response

Vision: To provide housing options that reflect the range of need within the City.

HOUSING VISION

While MDPs 12 Planning Visions are interwoven throughout this document, the City of Havre de Grace also needs to create its own housing vision. The City has examined the *Housing Visioning Self-Assessment* provided as part of the MDP's *Housing Models & Guidelines*. The housing vision also examines the City's own public input process as part of the *Envision Havre de Grace* public survey discussed earlier in the Comprehensive Plan. All future housing development in Havre de Grace should involve the following:

- Housing types available for people of all needs and incomes;
- Balance the development of owner-occupied and renter-occupied housing to maintain current levels;
- Focus on maintaining naturally occurring affordable housing;
 - Continue to enforce the City's Property Maintenance Code;
 - Work toward preventing demolition of housing stock in the City's Old Town, where feasible;
 - Enhance alternative modes of transportation, both pedestrian and bike trails;

- Encourage affordable housing development near transit areas;
- Provide design guidelines for new affordable housing to ensure new development fits into the character of the existing neighborhood;
- Aging in place.

Havre de Grace offers a mix of housing types with a range of affordability. Recent projects, such as Ivy Hills, provide rental homes that are considered affordable for families requiring 1, 2, or 3 bedroom options. The Village at Blenheim Run serves a range of very low-income to moderate-income residents, and the large development of Greenway Farm provides market-rate townhomes for sale. Home renovations and infill in the Old Town area is ongoing and a mix of housing choices are available due to the traditional nature of older, historic areas of the City. The City also has a large gated community, The Residences of Bulle Rock, providing luxury homes of varying housing types – single family, villas, townhouses and condominiums. This is just to paint a picture of the housing variety that exists here within the City of Havre de Grace.

According to the National Institute on Aging, staying in your own home as you get older is called ‘aging in place.’ The City should consider adopting policies which encourage aging in place and could consider providing a tax credit.

HOUSING DATA

For this section the City of Havre de Grace combined data from MDP’s *Housing Mapping and Data Dashboard* (HMDD) with U.S. Census and American Community Survey data to provide a big picture view of housing in Havre de Grace. The following is a snapshot of important data points that will lead the affordable housing discussion throughout this chapter.

Local level data for small municipalities are often not available and has a large sample error when estimated. For instance, Harford County median household income sits at \$121,700, while 2022 Census data for the City of Havre de Grace show its median household income at \$95,025. The difference in median household income shifts due to the variables and data being examined to determine housing affordability. Since reliable local data are not widely available, utilizing County data across the board allows us to perform an apples-to-apples comparison of data geographically closest to the City of Havre de Grace. The assumption for the following section is that the trends occurring in the County as a whole are similar to those occurring in the City. To that end, the data in this section are not being used to illustrate exactly what is happening in Havre de Grace. The following sections will provide some insight on issues occurring in the City based on overall trends in Harford County.

HOUSING BURDEN

As a standard, housing affordability is defined as housing costs that are at 30% or below a household’s gross income. In order to examine available housing stock for low- to moderate-income households, it is important to examine Area Median Income (AMI). Table 1 below shows the Area Median Income for Harford County.

From there, workforce housing can be defined for homeownership and rental housing. The range of 60% - 120% of AMI is considered to be workforce housing for owner-occupied units. This scales lower to 50% - 100% for rental units. Table 2 provides the affordability levels for the AMI ranges. These data are taken straight from the

Maryland Department of Planning Housing Dashboard expressing the range of affordability by income range or, in the case of Low Income, the maximum (i.e. ceiling) for monthly housing costs.

Table 1 - 2023 AMI for Harford County: \$121,700	
HB 1045 Household Income Levels/Ranges	
Workforce Ownership Range (60% - 120% AMI): \$73,020 - \$146,040	
Workforce Rental Range (50% - 100% AMI): \$60,850 - \$121,700	
Low Income (< 60% AMI):	\$73,020
Very Low Income (<50% AMI):	\$60,850

Source: Maryland Department of Planning Housing Dashboard

Table 2- Affordable Homeowner/Rental Monthly Payments (Based on 30% of Household Income)	
Workforce Ownership Range:	\$1,765 - \$3,529
Workforce Rental Range:	\$1,471 - \$2,941
Low Income:	\$1,765

Source: Maryland Department of Planning Housing Dashboard

WORKFORCE HOUSING PROFILE

Approximately 29% of households in the County are within the workforce housing income range, with an additional 35% of households being considered low-income or below. Based on the 6,093 households in the City, it can be extrapolated that this section will focus on future policies and programs for approximately 3,900 households or 9,600 residents.

HOMEOWNERSHIP AFFORDABILITY

Selected Monthly Owner Costs (SMOC) with mortgage are provided in Exhibit 1 below. SMOC data do not indicate the income of households at the different cost ranges. It is possible that many households that have incomes greater than 120% AMI have lower costs. These data are taken at face value and no additional assumptions are discussed except in relation to homeownership housing burden.

Exhibit 1 – Harford County Selected Monthly Owner Costs (SMOC) with mortgage

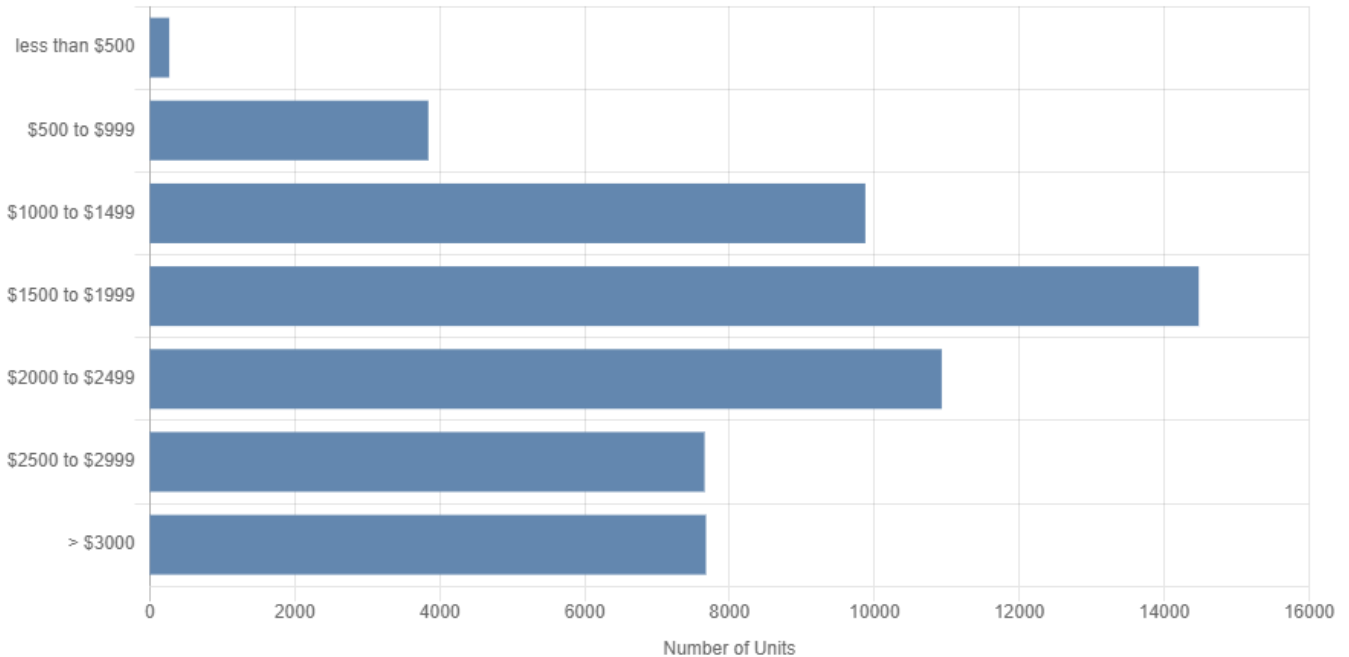
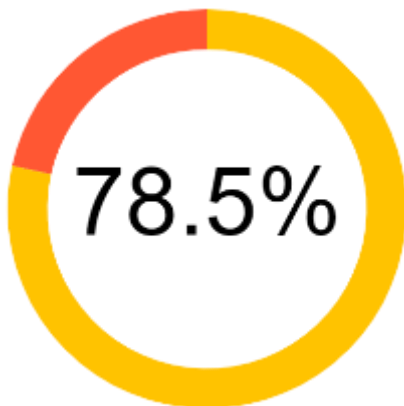


Exhibit 1 above indicates monthly owner costs for owner-occupied households. Approximately 39% of owner-occupied households pay below the monthly low-income affordability cost threshold of \$1,765. 54% of households pay within the workforce housing affordability range and 7% pay costs in the high-end range. With 64% of County residents being within workforce income range or lower, 93% of residents' costs are at or below the 30% burden-level of 120% AMI.



78.5% of owner-occupied households pay less than 30% of their monthly gross income. Conversely, 21.5% of households are burdened. This coincides with the 7% of households indicated above that have monthly costs within the workforce housing income range.

**Exhibit 2 - Homeownership <30%
Burden Rate – Harford County**

RENTAL AFFORDABILITY

Exhibit 3 below shows the gross rent of occupied units. 59% of gross rents are at or below the low-income range, with an additional 39% of gross rent rates lying in the workforce household income range. Again, the incomes of households within the different ranges are not indicated. Even though the overall rents appear to be reasonable, gross rent data are not equated with the income of households occupying rental homes in any of the cost ranges.

Exhibit 3 – Harford County Gross Rent of Occupied Units

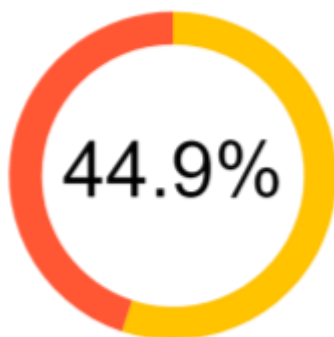
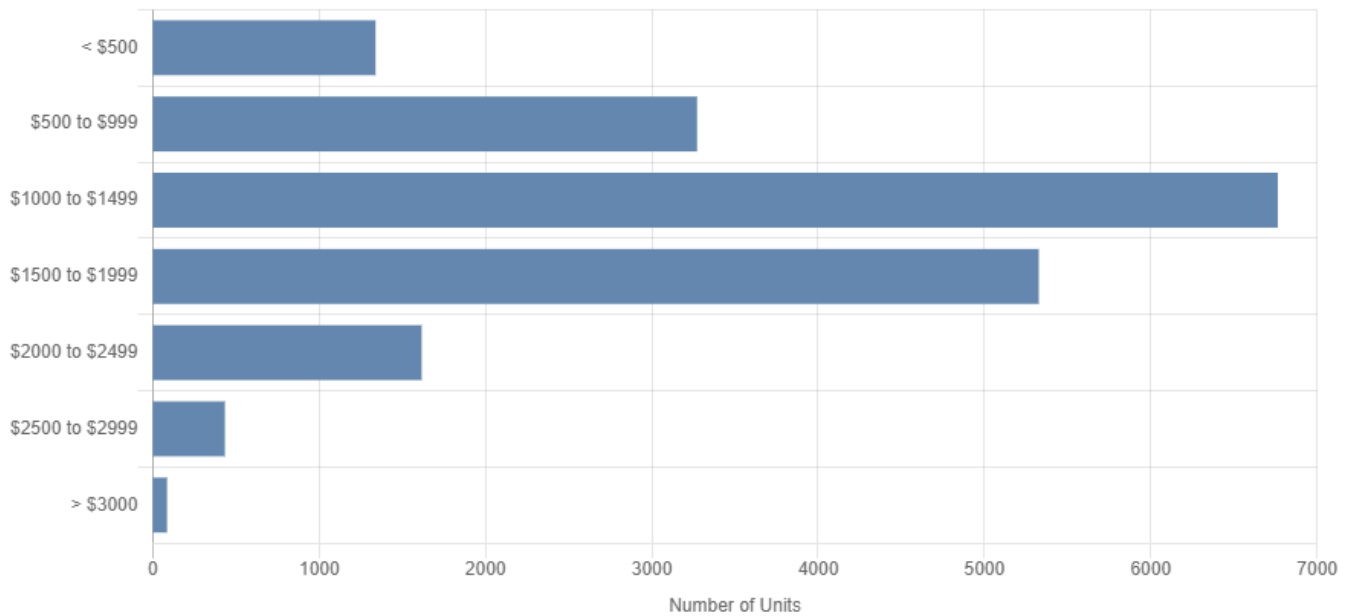


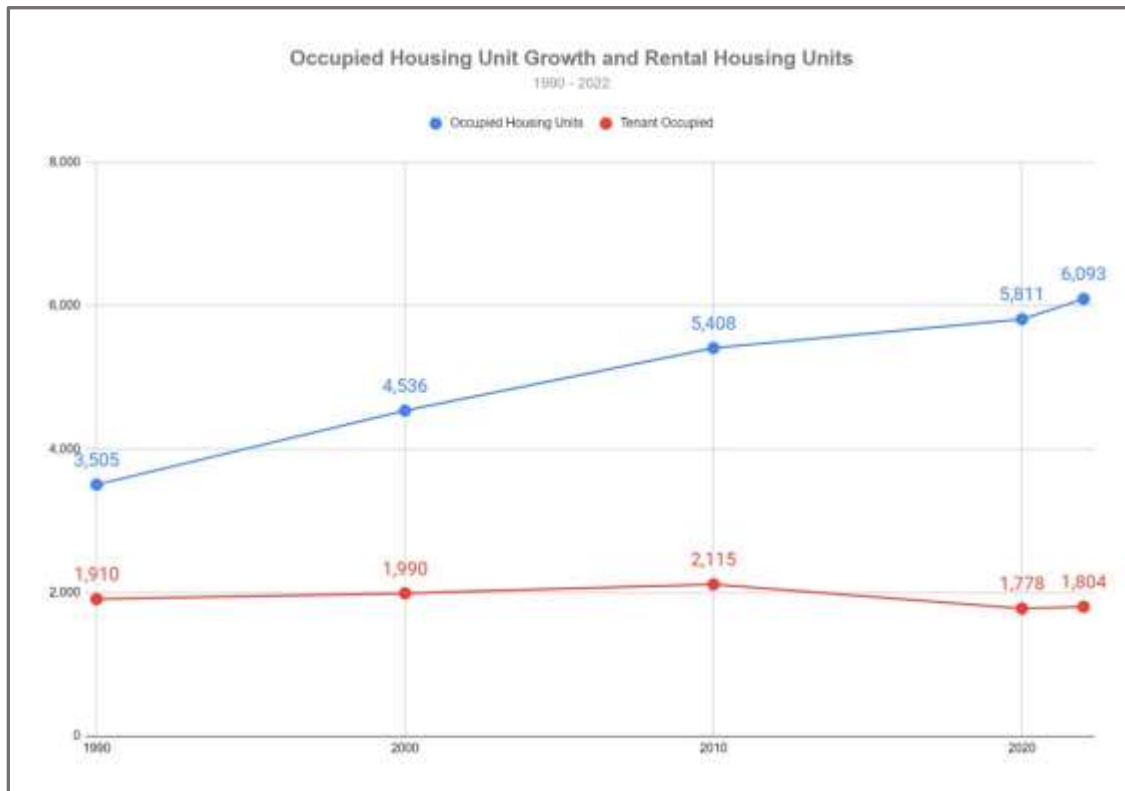
Exhibit 4 indicates 44.9% of people renting in the City of Havre de Grace are burdened. This is likely due to the most vulnerable residents of the City being renters. There also appears to be a shortage in the number of rental units available in the City. This leads to people of all incomes competing for a scarce resource.

**Exhibit 4 – Rental Costs at <30%
Burden Rate – Havre de Grace**

Exhibit 5 below shows the number of rental units available in the City compared to the overall housing stock. While the City has strived to increase the owner-occupied housing stock and create a more balanced ownership-to-rental ratio, the overall rental housing stock has decreased over the past 30 years. There has been a net

decrease in rental housing from 1990 to 2020 of 106 units. As the population of the City has increased, the rental housing stock has declined. The City needs to address strategies to increase its housing stock, especially for residents earning workforce incomes.

Exhibit 5 – Total Occupied Housing Unit Growth vs. Total Rental Housing Units



Please note: the first 2 data points are from decennial Census whereas the last 3 data points are from the ACS.

HOUSING RESOURCES

LOCAL AFFORDABLE HOUSING PARTNERSHIPS

Currently, several multifamily housing complexes exist – some limited to low-income seniors, such as The Graw and Nancy Rase Corner House – and others are intended for families with or without children. The Graw is a HUD-sponsored senior living facility consisting of one-bedroom units where residents pay no more than 30% of their gross income for rent. A new affordable neighborhood, the Villages at Blenheim Run, is under development with the first building completed and now available for rental occupancy.

The completed complex of townhomes at Ivy Hills were established within the past 10 years as affordable living with 1, 2, and 3 bedrooms. For this neighborhood, City code enforcement staff work directly with the supervisor and tenants to ensure there is safe and affordable housing meeting the City's livability and property maintenance standards.

The City works closely with the Havre de Grace Housing Authority operating Somerset Manor, which is the only public housing facility within Harford County. The Housing Authority was established in the 1970s to provide affordable housing for low- to moderate-income families in Harford County. The complex consists of 50 townhomes and 10 elderly/disabled townhomes and has offered a range of programs for low income residents, persons who are homeless, those that may be disabled, the elderly, and families with children according to their site information.



The first building of the Village at Blenheim Run opened for occupancy in 2023.

The City also works closely with the local branch of *Habitat for Humanity (H4H) Susquehanna* in waiving permit fees and property taxes, and providing surplus property for the development of affordable housing. Havre de Grace is also

trying to establish a better relationship with H4H and other similar groups to provide home repairs for residents that cannot afford needed repairs to their homes. In the past 10 years, the City has approved 12 new homes constructed or improved by H4H and donated 3 lots in the Bradford Green neighborhood to the organization.

The City has worked hard to develop public-private partnerships to develop affordable housing in appropriate locations. In 2019, the City adopted Ordinance 1026 to develop the Commercial Corridor Mixed-Use (CCMU) development provisions. The goal of the zoning changes was to encourage mixed-use residential development along US 40 and MD 7 public transit corridors. This led to the development the Village of Blenheim Run apartments, which will be a 111-unit affordable housing project when it is completed, with nearby commercial uses to provide jobs and services for residents as well as access to transit. The City looks to continue those partnerships over time as resources become available.

Senior and Affordable Housing in Havre de Grace		
Source: City of Havre de Grace - Department of Planning (2023)		
NAME	ACRES	TOTAL UNITS
Low Income-Senior Housing		
St. Johns Towers	0.47	56
St. Johns Commons	0.69	40
Nancy Rase Corner House	0.50	20
The Graw	1.24	66
Affordable Housing		
Village at Blenheim Run	4.32	111
Ivy Hills	3.32	37
Public Housing		
Somerset Manor (HdG Housing Authority)	7.00	60

Below is a list of affordable, very-low, and low to moderate income housing and resources:

- Ivy Hills
- Somerset Manor, Havre de Grace Housing Authority
- Village at Blenheim Run working in coordination with Harford Community Action Agency;
- Low Income housing for seniors, potentially with special needs:
 - The Graw
 - St. Johns Towers
 - St. Johns Commons
 - Nancy Rase Corner House
- Habitat for Humanity Susquehanna
- Harford Community Action Agency (for financial hardship)

For a small city, Havre de Grace contains an ample variety of affordable and workforce housing types. This is due to policies that are friendly to development of housing across all incomes, and maintaining naturally reoccurring affordability in infill development areas. Although housing affordability remains an issue nationwide, a regional approach is required to change larger economic trends outside of the control of local governments. The City will continue to work with regional partners on these solutions.

HOUSING OPPORTUNITIES TO CONSIDER

Programs suggested in *MDP's Housing Element Models & Guidelines* were examined. The City will review these programs when implementing the policies outlined throughout the Comprehensive Plan.

LOCAL DATA AND INPUT

HOUSING REGULATIONS AND IMPLEMENTATION

Based on MDPs *Housing Regulations and Implementation* self-assessment, the following is a review of the City's policies and initiatives. Where there is a potential area that should be examined for improvement, those areas are identified in the Housing Improvement Areas section below.

ZONING AND DEVELOPMENT REGULATIONS

Beyond the **CCMU development** regulations described above, the City does provide for multi-family housing. Currently, this is limited to the RB and R2 zoning districts as a conditional use. The RO zoning district is currently being studied as a location to allow multi-family housing for senior citizens. This would be part of a larger initiative to encourage aging-in-place design. In 2003, the City developed a Planned Adult Communities (PAC) ordinance which is typical of a traditional Planned Unit Development ordinance. For projects 600 acres or larger, the goal was to provide flexibility in housing types for families without children. The ordinance did not go far enough in restricting the age of groups or in requiring a mix of housing types. This has led to the Bulle Rock community needing to adapt the planned/built environment by allowing families of all ages to live within the community.

Future aging-in-place and senior housing development regulations should focus on affordability and required housing mix to provide options for all incomes.

The City allows **Accessory Dwelling Units (ADUs)** throughout several residential zoning districts in the City. In 2022, the Mayor and Council passed several requirements for ADUs which limit their size and scale and also require the owner of the property to live on the premises. All ADUs also require conditional use approval for all zoning districts. The City's Department of Planning has been working with the Maryland Department of Planning in providing information and support for the *Accessory Dwelling Unit Policy Task Force*. While the results of the task force will likely encourage municipalities to reduce restrictions on ADUs, Havre de Grace recently changed these laws to have ADUs fit into the character of the community and Task Force recommendations will lead to few, if any, changes to the ADU regulations.

Infill housing and naturally occurring affordable housing are important to the City's needs. In 2023, the City passed Ordinance 1111, which recognizes that infill development regulations should be relaxed on irregular lots as long as new construction is similar to housing in the rest of the neighborhood. This flexibility in the zoning code is vital in allowing for continued traditional development in the City that has occurred since its existence.

The City is also in the process of studying the RO zoning district and redevelopment in that neighborhood with the closing of UM Harford Memorial Hospital in February 2024. As part of that review, the City is exploring making future development more predictable, developing a form-based code, constructing a bonus density scheme that would create additional affordability, and streamlining redevelopment. Upon adoption of the Comprehensive Plan, the City will conduct a Comprehensive Rezoning process that will also examine these issues. The hope is the RO changes are a pilot study of what can be possible elsewhere in the City.

Potential areas for policy review include parking regulations, Capital Cost Recovery Fees in infill areas, and the nexus of economic development, transportation and housing are discussed below.

PARKING

The City requires three off-street parking spaces for all new residential development and one additional off-street parking space for new ADUs. There is an area of downtown where parking is relaxed, but only for three or less residential units. When four or more units are being proposed, three parking spaces are required for each unit. By industry standards, the residential parking requirements are extremely overbearing. However, residents and businesses consistently discuss parking availability as being a major issue. The City procured a parking study which found that the number of off-street parking spaces downtown was adequate, but long-term parking was an issue. The assumption is that business owners, employees and residents have become accustomed to parking directly in front of their workplace/residence.

CAPITAL COST RECOVERY FEES AND OTHER IMPACT FEES

A major obstacle for all new residential development is the payment of Capital Cost Recovery Fees (CCRF). As of the approval of this Comprehensive Plan, the fee for water and sewer CCRF is a combined \$23,500. Like many communities, Havre de Grace has aging and increasingly stressed infrastructure. New development further exacerbates these issues and funding is required to make sure the water and sewer systems are adequate. The City could still examine these and other fees and see under what scenarios it may make sense to provide some impact fee relief.

The City has a history of developing property tax incentive programs. Former military members and H4H have received tax abatements. The City has also developed a tax abatement program in the RO zoning district to encourage returning office space back into dwellings.

ECONOMIC DEVELOPMENT, TRANSPORTATION, AND HOUSING

Prior to the passage of HB 1045, the City has recognized the important link between available transit options, availability of jobs and affordable housing. In December 2019, the City adopted the Commercial Corridor Mixed-Use provisions to address these important links. The purposes of the enhanced district provisions are to provide opportunities for developments to mix multi-family residential uses with retail trade, service and institutional uses, with an emphasis on creativity, quality design, and in close proximity to mass transit within the C/Commercial District. MDP has included these revisions in the “Best Practices” section of the *Housing Element Models & Guidelines*. The result is the construction of The Village at Blenheim Run apartments, a very-low to moderate-income housing project on US 40. The 111-unit development will include some strip commercial uses along the Harford County LINK public transit route. The City will utilize this opportunity for CCMU development in the future, where appropriate along US 40.

The Comprehensive Plan also utilizes strategies in the Placing Jobs Models & Guidelines throughout the document. The *Economic Development and Tourism* chapter provides an economic profile for the City utilizing Harford County data. This information is used to help create future initiatives for continuing to look at housing as a larger strategy with economic development initiatives and public transit availability.

HOMELESSNESS ASSISTANCE

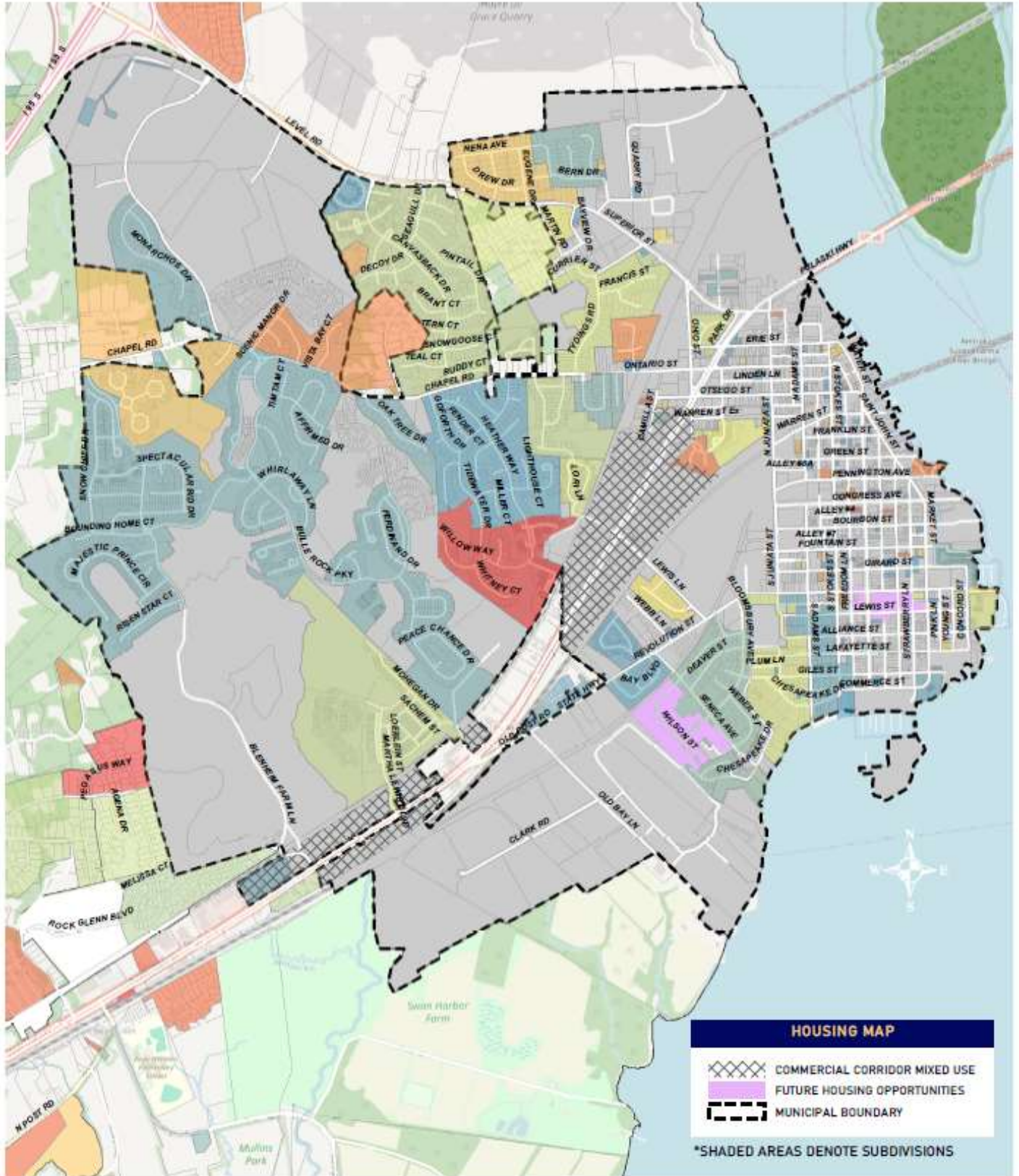
The City of Havre de Grace has begun examining its policies for homeless people in the community and how to provide better resources. Working with Harford County Action Agency, the City found that there are gaps in service from the time someone becomes homeless to the time they can get transportation to resources. This will help provide temporary housing and get people with housing needs to available resources. The City may consider partnering with local agencies to expand services available in the City to help further close any gaps in service.

AVAILABLE LAND FOR WORKFORCE HOUSING

There is one area within the City where workforce housing could be appropriate, which would be areas along US 40, near public transit and services, as part of the CCMU district.

The draft changes to the RO zoning district are proposing a mix of single-family homes on smaller lots, townhouses, and the potential for age-restricted condominiums for the area's growing senior population. This mix of housing will provide the opportunity for homes to be available in the workforce housing range.

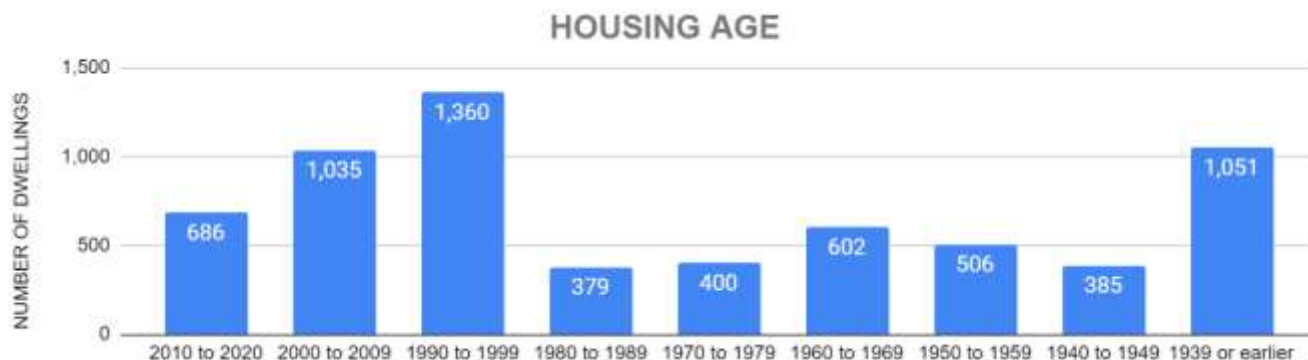
Lastly, the City should continue to foster the opportunity for workforce housing and multi-family development along the US 40 corridor. The City's recent changes to allow residential along this corridor was listed as a "Best Practices" by the Maryland Department of Planning in 2019. If possible, portions of this code section should be incorporated into other zoning districts, where appropriate.



CURRENT HOUSING CONDITIONS

48.1% of the homes in the City were built after 1990, indicating homes recently constructed are likely in better condition. The City also has a 16.5% of homes built prior to 1939, and approximately 42% of homes constructed prior to 1973. Exhibit 6 below provides information on the years housing was constructed throughout the City.

Exhibit 6 – Age of Housing Stock



In order to make sure historic and recently built homes are maintained, the City strictly enforces its property maintenance code under Chapter 31 of the City Code. **More historic-based** regulations could be beneficial to ensure better housing conditions and preserving properties that contribute to the history of Havre de Grace. This includes greater restrictions on when demolition occurs in the City’s National Register Historic District.

ADDITIONAL ASSETS AND OPPORTUNITIES

Many of the assets and opportunities for the development of workforce housing are discussed throughout the Housing Element. One area that was not captured was addressing the existing affordable housing stock in the City. Most of this housing stock exists in Revitalization Areas 5 and 6 as identified in the Sustainable Communities Element. A small area plan is needed for the Revolution Street Gateway Corridor and Revolution Street Communities that focuses on increasing the quality of the housing stock in the area, maintaining jobs and services available, while limiting the pressures of gentrification from redevelopment.

ADDITIONAL DATA

MDP provides suggestions of additional data to examine in the *Common Practices* section of the Housing Element’s Models & Guidelines. Those items are provided in the Housing Element: Data and Analysis section under Supporting Resources located at the back of this plan. The data and information were used in developing housing strategies and the answering the self-assessments. It includes more specific data relevant to Havre de Grace and can be used for further understanding of the housing dynamic within the City, with information that is not included in MDP’s *Housing Mapping and Data Dashboard* that was used within this *Housing* chapter.

HOUSING SELF-ASSESSMENTS

As part of this chapter, the City examined MDPs *Housing Analysis and Policy* and *Housing Implementation and Regulations* Self-Assessments. The items discussed in the self-assessments are provided throughout this Housing Element and the following other sections:

- Municipal Growth Element
- Land Use: A Whole City Plan
- Economic Development and Tourism
- Housing Element: Data and Analysis, Supporting Resources

CONSISTENCY WITH OTHER PLANS

MARYLAND DHCD CONSOLIDATED PLAN

The Maryland Department of Housing and Community Development (DHCD) adopted the 2020 – 2025 Consolidated Plan—a planning tool required by the U.S. Housing and Urban Development (HUD) that guides the use of funding. DHCD has also issued an accompanying Annual Action Plan for State Fiscal Year 2024. Most of the programs under DHCD are administered at the state or county level. However, the City of Havre de Grace will be seeking a Community Development Block Grant separate from Harford County allotted funds beginning in Fiscal Year 2025. This will allow the City more flexibility in the capital projects it would like to pursue with this program.

The City's Housing Element and visions section reflects the goals and objectives of the Consolidated Plan. The City will look to implement strategies that allow utilization of Federal and State programs, such as development of the zoning regulations that allow the use of CDBG and HOME funds that address housing issues.

HARFORD/NEXT

The City has reviewed 2016 HarfordNEXT: A Master Plan for the Next Generation in authoring the Comprehensive Plan. Havre de Grace shares many of the goals and objectives stated in the County's future growth plan. This includes developing aging-in-place development opportunities, preserving historic properties and growing with a purpose. Many of the strategies the City has for promoting workforce housing and developing a variety of housing types parallel Harford County's growth efforts. The City will continue to relate to *HarfordNEXT* as it implements the policies of this plan.

HAVRE DE GRACE SUSTAINABLE COMMUNITIES PLAN

In 2022, the Maryland Department of Housing and Community Development (DHCD) renewed the City's designation as a Sustainable Community. The City will maintain that designation through the 2027. In the Sustainable Communities application, the City and DHCD examine several housing issues, goals and objectives. Those items are shown in Exhibit 7 below.

Exhibit 7 – Excerpt from the Sustainable Community application

HOUSING: Describes projects involving the homes in which people in your community live and which make it easier for them to find and stay in a place to call home.

This category includes projects focusing on (but not limited to): affordability; increasing homeownership; increasing rental housing; diversifying the kinds of housing available; improving housing conditions (interior or exterior); housing programs; aging in place; preventing foreclosures; and reducing residential vacancies.

Three areas for improvement that were determined in the Sustainable Communities plan are: 1) the need for the City to support programs that increase the stock of affordable housing; 2) supporting residents experiencing homelessness or threatened by eviction, and; 3) encouraging access to homeownership counseling services. The City should continue to address these items in its future housing policies.

FAIR HOUSING

The City of Havre de Grace recognizes the Federal Fair Housing Act and Section 20-702 of the Annotated Code of Maryland. Recently, the City participated in a survey with the Maryland Department of Housing and Community Development to help strengthen local fair housing initiatives. The City has the following fair housing goals:

- If staff becomes aware of a potential fair housing issue, they should report it to an appropriate agency;
- Work with outside agencies to assist residents where housing discrimination might have occurred, such as *Economic Action MD*;
- Provide educational and outreach information on Fair Housing and be more involved in April Fair Housing month and similar initiatives.

U.S. Housing and Urban Development, along with the State of Maryland, are asking local governments to *affirmatively further* fair housing. The first step for localities in taking these measures are to identify neighborhoods where discrimination and poverty is prevalent. In a Brookings Institution article, “Affirmatively furthering fair housing: Considerations for the new geography in poverty”, it is noted that suburbs (similar to that of the City of Havre de Grace) do not have the resources necessary to determine where segregation and poverty is occurring. Moreover, the solutions to fair housing issues for suburban areas should be handled regionally. As mentioned earlier in this plan, the City has integrated this plan with countywide housing policies and have staff has worked directly with MDP to provide housing for everyone throughout the City. As resources become available, the City should consider being part of a larger regional effort to have a spatial analysis performed to recognize neighborhoods in need of creative policies.

While more can be done by the City to further fair housing, the *2023 Harford County Health Equity Report* provides countywide statistics on segregation. Residential segregation in the county, for both Whites and African-Americans, is much lower than the State of Maryland as a whole and the United States. There is always room for improvement, but existing fair housing policies, City development regulations and other trends have led to the City being in an improved fair housing standing compared to the state and nation.

It is important to note that there are likely multiple factors leading to segregated neighborhoods. This means there are likely multiple solutions needed to alleviate segregation. While furthering fair housing is an important

piece to the puzzle, the City should be cautious in assuming solutions to segregation are singularly based on furthering fair housing. To reiterate, the ultimate solution to housing issues is multifaceted, requires resources beyond small localities capabilities, and requires a regional approach.

ACTIONS:

City policies affecting affordable housing should focus on the following areas:

- Reach out to Harford and Cecil Counties, as well as Perryville, Aberdeen and Bel Air in order to strengthen the regional housing perspective;
- Examine the potential and opportunities for local policies to encourage affordable housing development, which could include subsidies or changes to local development policies;
- Review policies for senior residents and aging-in-place;
- Look to reduce housing burdens by reducing costs in other areas, such as providing alternative transportation methods to decrease car dependency and encouraging economic development opportunities near residential areas;
- Find funds for the development of a small area plan examining the Revolution Street Gateway Corridor and the Revolution Street Communities;
- Continue to encourage infill development to provide more naturally occurring affordable housing;
- Allow for subsidized housing in appropriate places where transit and other needs can be met;
- Examine zoning and development regulations to allow for higher density development and design to fit into the fabric of surrounding neighborhoods;
- Strengthen the demolition guidelines in Old Town to help maintain the City's reoccurring affordable housing stock;
- When implementing the policies of this plan, refer to the other plans discussed throughout that document in order to align successful strategies;
- Work with the Police Department, Code Enforcement, and County agencies to develop protocols for assisting people experiencing homelessness, with a goal to provide services and resources prior to losing their home.

COMPREHENSIVE PLAN DEMOGRAPHIC DATA AND ANALYSIS

OVERVIEW

The Community Profile analyzes demographic factors related to the City’s socio-economic conditions. The demographic factors analyzed below are: Population, Race and Ethnicity, Age, Education, Income, Poverty, Labor force, Occupations and Commute. Through analyzing these factors and patterns change over time, the City is able to identify trends, emerging needs and demands for residents and visitors for the next 20 years. These trends provide valuable insight regarding existing conditions enabling informed judgment for many important City projects and future conditions. For this reason, some data presented below will be discussed throughout the Comprehensive Plan.

Most of the data included in this Community Profile section comes from the 2006-2010 & 2016-2020 American Community Survey (ACS) and U.S. Census Bureau Decennial Data. Beginning with the 2010 Decennial Census, the Census Bureau stopped distributing the traditional ‘long form’ survey that historically provided enhanced data. These included detailed social statistics (e.g., educational attainment, household relationships, veteran status, disability status, ancestry, language spoken), economic data (e.g., employment, occupation, income, poverty status), and housing statistics (e.g., unit makeup, year built, value). These summary files were replaced by American Community Survey (ACS) data, which are available in five-year estimates. Due to sampling and surveying error, the data is a best available estimate of existing conditions. The more descriptive data is only available from the ACS beginning in 2010.

DEMOGRAPHIC DATA

DEMOGRAPHIC CHARACTERISTIC & TRENDS

- Population Trends
- Race
- Ethnicity
- Age
- Education
- Income
- Occupations
- Poverty Status
- Labor Force
- Commuter Analysis
- Summary of Socio-Economic Profile

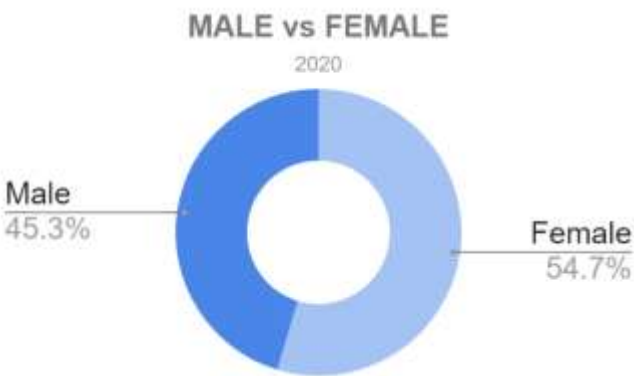
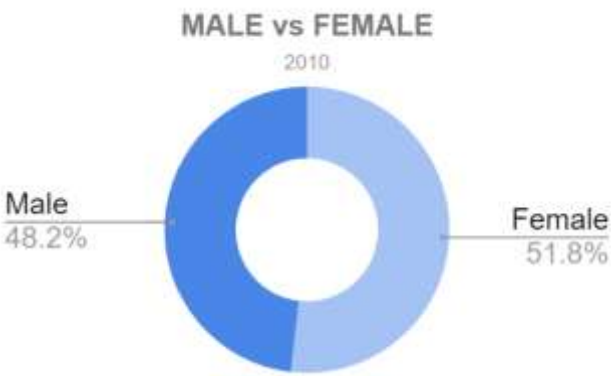
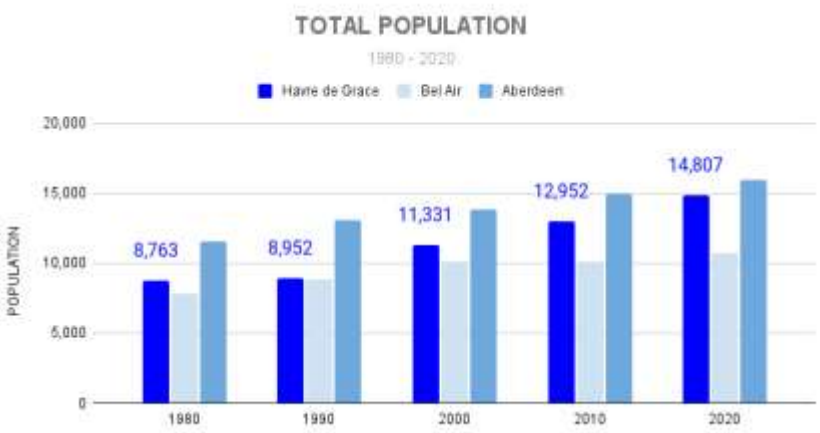
DEMOGRAPHIC CHARACTERISTICS & TRENDS:

Population Trends:

According to the 2020 US Decennial Census the City has a population of 14,807 residents. The population has increased 65% since 1990 as a result of building, developments and annexations west of Route 40 - Pulaski Highway.

Since 2000 the City has grown 31% at an average annual growth rate of 1.5% compared to Bel Air and Aberdeen, who experienced lesser growth at 0.28% (5.76%) and 0.74% (14.9%) respectively.

The City’s significant growth increased the population by 5,855 (65%) since 1990, which is the beginning period of substantial annexation and growth. This boom in growth and development was a result of available rural land west of Route 40 (Pulaski Highway) that was prime for several subdivision developments and in line with existing water and sewer infrastructure. The development is ongoing and the population will continue to increase at a steady rate. The City’s gender ratio is also indicative of a growing population with more females over males and the inverse as generally accepted as shrinking.



Race:

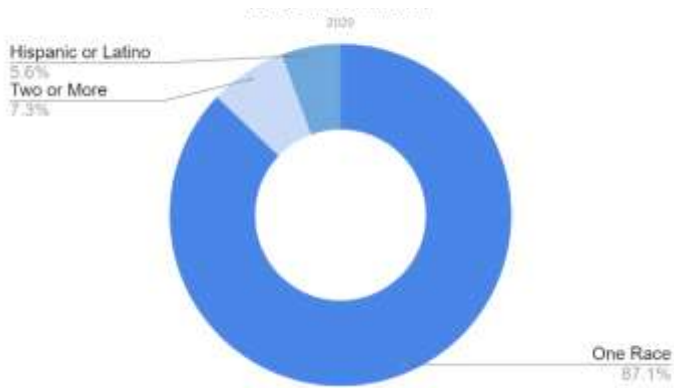
RACE (2000 - 2020)	2000 No.	2000 %	2010 No.	2010 %	2020 No.	2020 %
One Race	10,993	97.02%	12,476	96.32%	13,665	92.29%
White	8,979	79.24%	9,809	75.73%	10,283	69.45%
Black or African American	1,830	16.15%	2,170	16.75%	2,564	17.32%
American Indian & Alaska Native	25	0.22%	36	0.28%	52	0.35%
Asian	146	1.29%	310	2.39%	434	2.93%
Native Hawaiian & Pacific Islander	13	0.11%	14	0.11%	14	0.09%
Some Other Race	2	0.02%	137	1.06%	318	2.15%
Two or More Races	247	2.18%	476	3.68%	1,142	7.71%
Total Population	11,331	100.00%	12,952	100.00%	14,807	100.00%
Source: 2000-2020 U.S. Decennial Census						

The City embraces its diversity of residents as the population continues to grow. With 17.3% Black or African American, 7.7% two or more races, and 5.9% Hispanic or Latino. The number of people reporting as African American increased from 16.2% in 2000 to 17.3% in 2020, to a population of 2,564 from 1,830 for a total population increase of 24.3%.

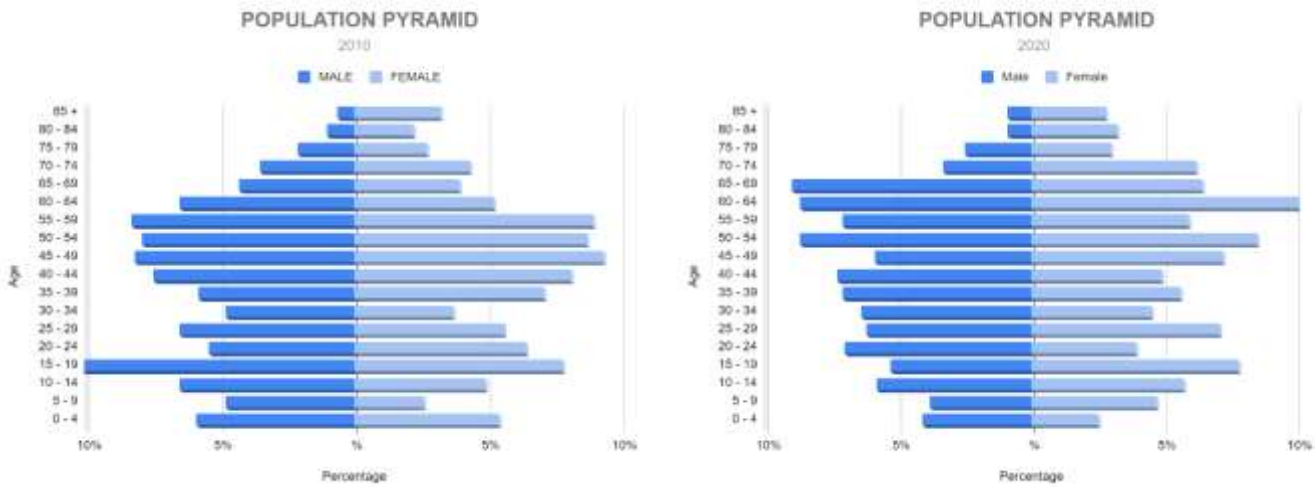
Ethnicity:

Source: 2000-2020 U.S. Decennial Census	2000 No.	2010 No.	2020 No.	2000-2020 % change
Hispanic or Latino	241	608	879	264.73%
Not Hispanic or Latino	11,090	12,344	13,928	25.59%
Total Population	11,331	12,952	14,807	30.68%
Source: 2000-2020 U.S. Decennial Census				

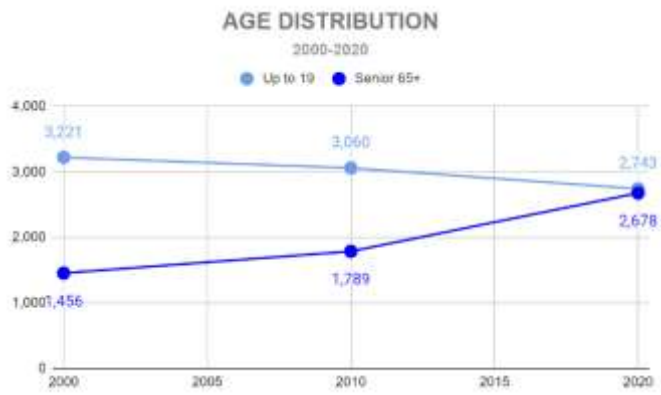
The number of people reporting as two or more races increased from 2.2% in 2000 to 7.7% in 2020, to a population of 1,142 from 247. The total number of people reporting as Hispanic or Latino increased from 2.13% in 2000 to 6% in 2020 to a population of 879 from 241.



Age:



The median age has increased from 36.7 in 2000 to 45.3 which consist of 6,261 Males (45.3%) to 7,547 Females (54.7%). In 2020, the population of senior citizens (19.4%) over 65 years is on track to outnumber the younger population (19.9%) under 18 years. This shift and increasing trend will influence the public services and resources of the City. Planning for access to health care and medical services, public transportation, food access and housing so it is inclusive of all will be important. The growing demand among the younger generation who live alone is also increasing. Please see housing data for more information.



The population under 18 years of age decreased 14.9%, and the senior population increased 84% since 2000. This trend is also reflected in national and regional demographics and will continue to influence future planning for needs of specialized services and adaptations such as senior living facilities, assisted living, day nurse, hospice, skilled nursing care and general activities and events for seniors.

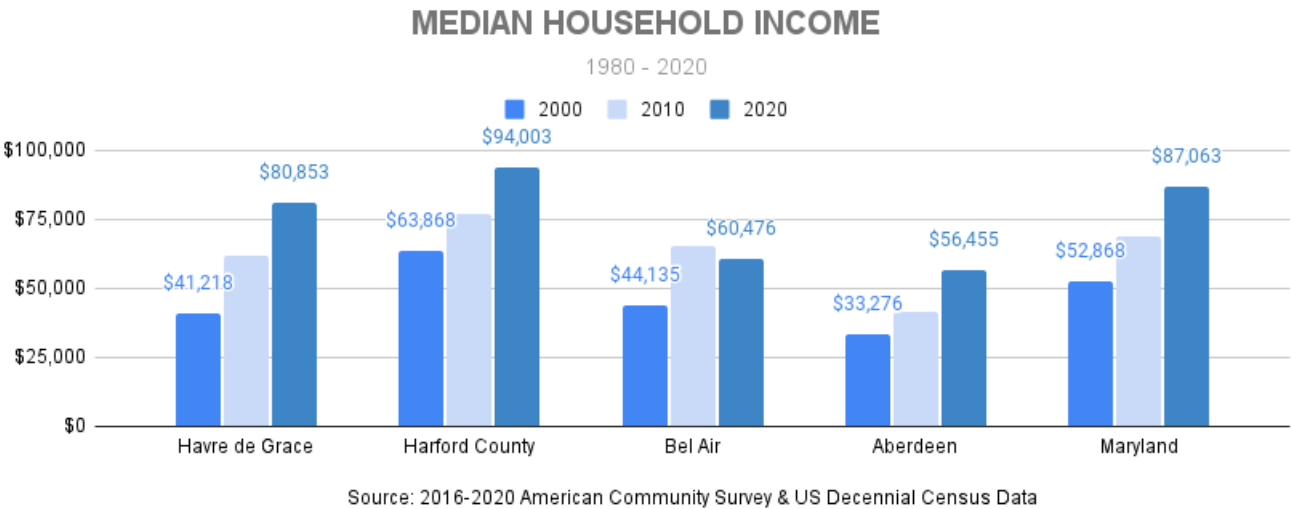


Education: Inventory Population of Education Attainment

Educational Attainment (2020)	Havre de Grace No.	Havre de Grace %	Harford County No.	Harford County %	Maryland State No.	Maryland State %
Not High School Graduates	257	2.38%	12,248	6.94%	393,028	9.44%
High School Graduate	2,613	24.17%	45,907	26.01%	1,006,008	24.16%
Some College, No Degree	2,216	20.50%	38,313	21.70%	779,586	18.72%
Associate's Degree	527	4.88%	14,924	8.45%	282,898	6.79%
Bachelor's Degree	1,978	18.30%	37,733	21.38%	907,523	21.79%
Graduate Degree or Higher	2,097	19.40%	27,393	15.52%	795,655	19.10%
Population 25 Years & Over	10,809	73%	176,518	69.60%	4,164,698	69.00%
Source: 2020 ACS 5-Year Census Data						

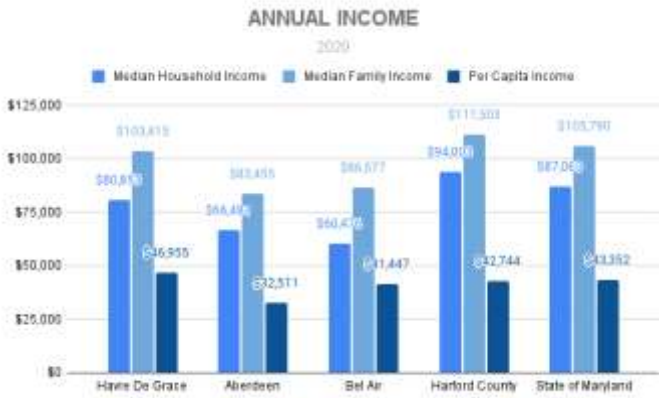
Educational attainment is a metric to identify the types of employment or other services required to serve the population while also used to show how the City is positioned in relation to the County and State. In 2020, high school diplomas are relatively similar compared to Harford County and Maryland State, with Havre de Grace being slightly lower with Bachelor’s degrees at 18.3% compared to Harford County at 21.3% and the state at 21.7%. The population with Graduate degree or higher (PhD/JD) is higher compared to Harford County at 15.5% and the state at 19.1%.

Income: Area Median Household Income



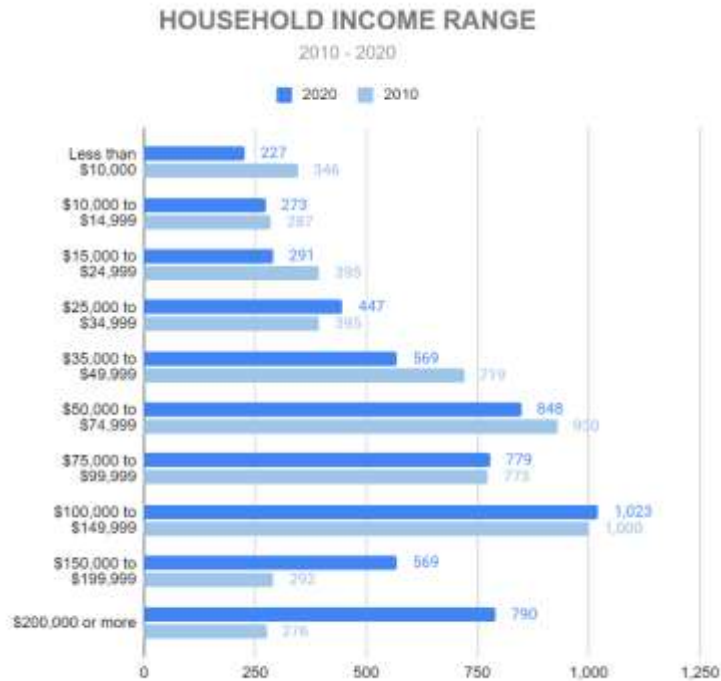
The median household income for the City is \$80,853, which is an increase of 96.2% since 2000. This significant increase is substantially greater than Harford County 47.2% and Maryland 65% during the same time period.

The City should focus on opportunities to encourage wider varieties of employers to these areas, as well as the development of affordable housing for those not making livable wages based on median household income levels.



February, 2024

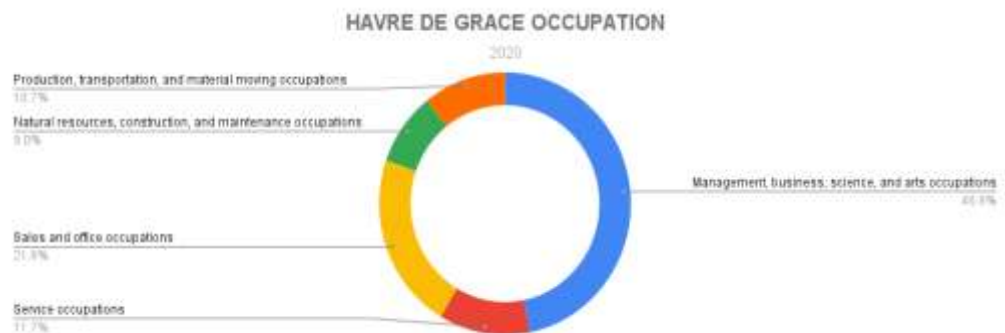
The Distribution of household income from 2010 to 2020 can be seen in the adjacent graph and the change over time. Take note that increased income levels is trending towards those households with \$75,000 - \$200,000 or more.



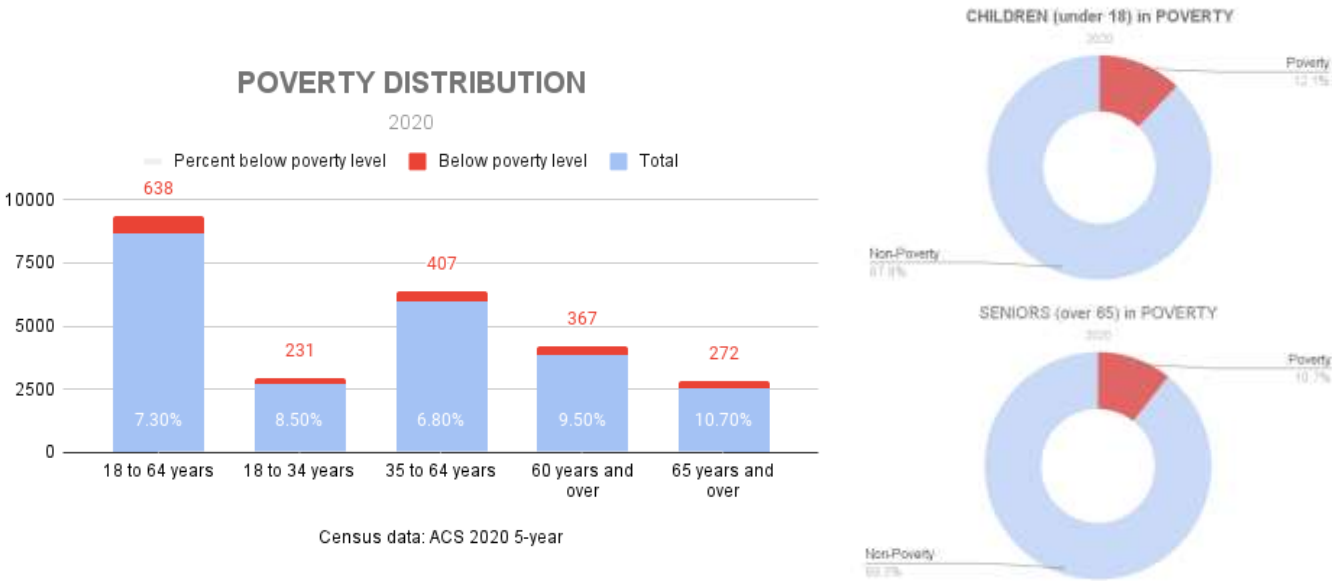
Occupation:

OCCUPATION	2000	2020	2020 % Total
Management, business, science, and arts occupations	1,834	3,358	46.84%
Service occupations	752	836	11.66%
Sales and office occupations	1,434	1,566	21.84%
Natural resources, construction, and maintenance occupations	595	644	8.98%
Production, transportation, and material moving occupations	846	765	10.67%
Total Employed Civilian Population 16 years and over	5,461	7,169	100.00%
Source: 2020 ACS 5 - Year Census Data			

The leading occupation for the civilian employed population in Havre de Grace is management, professional, and related occupations at 46.8%, an increase from 33.6% in 2000, with sales and office occupations as second highest 21.8% a decrease from 26.3% in 2000.

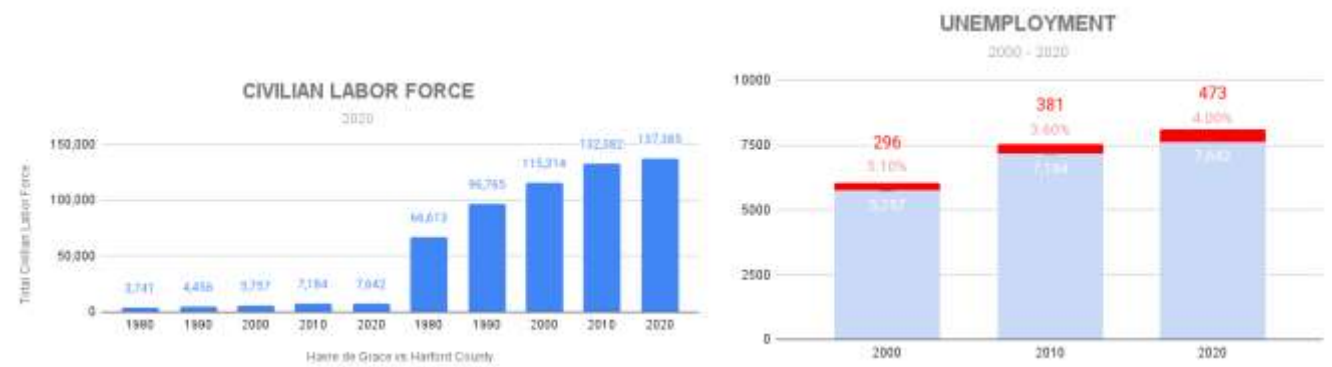


Poverty Status:



For a single individual, the income threshold for poverty status was \$12,760. With an average household size of 2.35 the threshold is \$21,720 per family of 3 according to the U.S. Federal Poverty guidelines provided by the Office of the Assistant Secretary for Planning and Evaluation (ASPE). The poverty rate in the City has declined by 31.8% since 2000 and is currently at 8.8% (1,190 residents) of the total population compared to data from the 2000 census, 12.9% and 1,461 residents respectively. The senior population 65 and older is growing and at risk of becoming disproportionately affected due to increasing cost of living and being on a fixed income. Due to the 8.8% poverty rate, the need for services for low-income populations is also high. (Source: ACS 2020 5-year survey estimates for Poverty; Surveyed population is 13,620; differs from Decennial data for 2020)

Labor Force:



Unemployment is defined by the US Census Bureau Statistics as: civilians over 16 years old and are neither "at work" nor "with a job but not at work" during the reference week, and (2) were actively looking for work during the last 4 weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, and were available for work except for temporary illness. Within the City of Havre de Grace, the civilian labor force

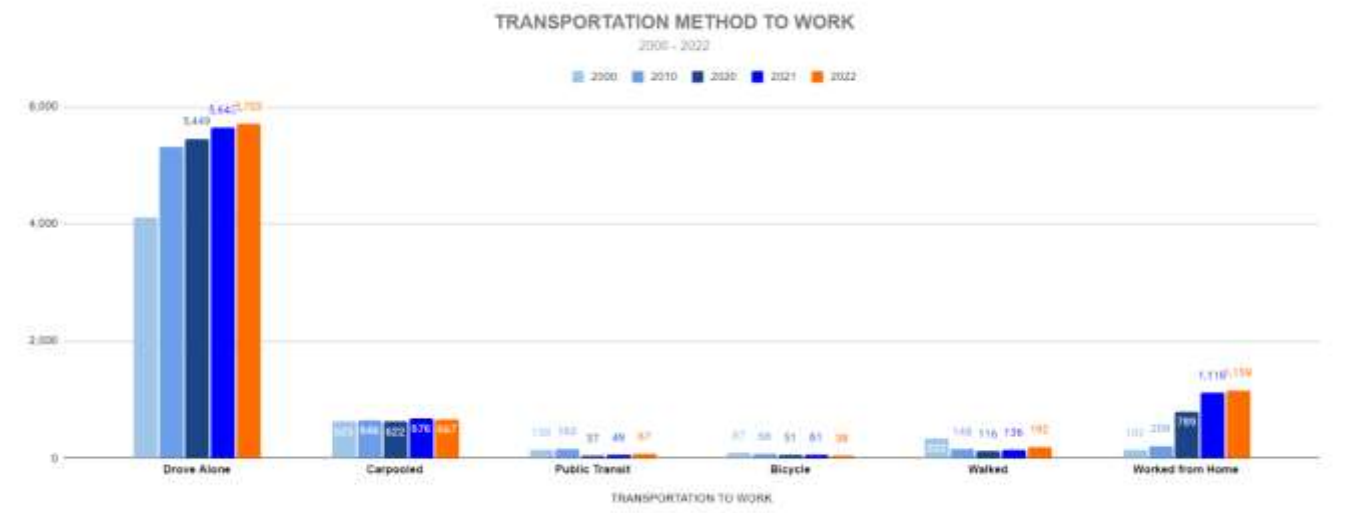
The City of Havre de Grace | 2024 Comprehensive Plan: Introduction, Demographic Data, and Analysis

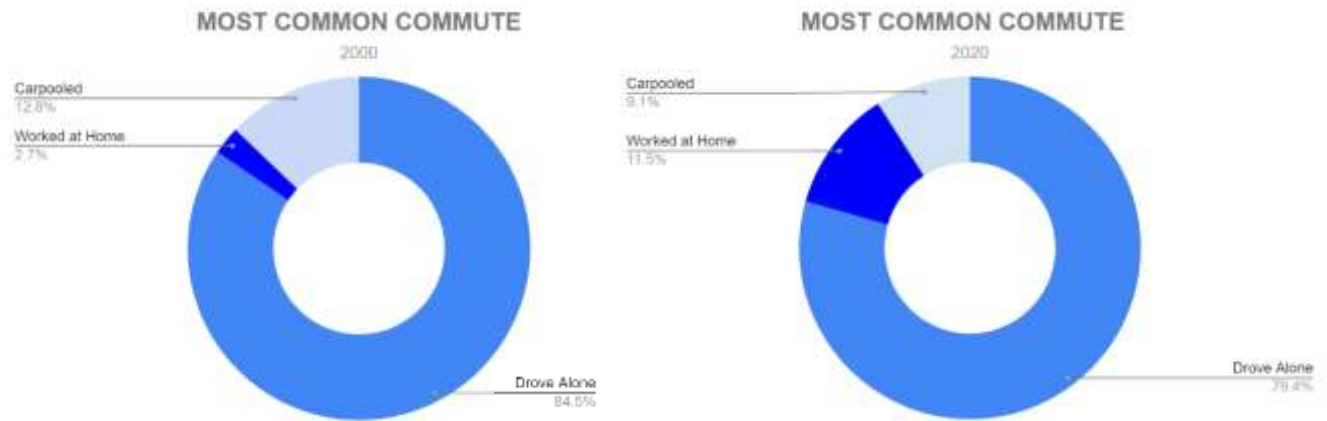
over the age of 16 increased from 5,757 to 7,642 residents. This labor force included 296 residents (5.1% unemployed) in 2000 to 473 residents (4.0% unemployed) in 2020. Although the percentage of unemployed decreased, the total population of unemployed increased during those 20 years.

Commute:

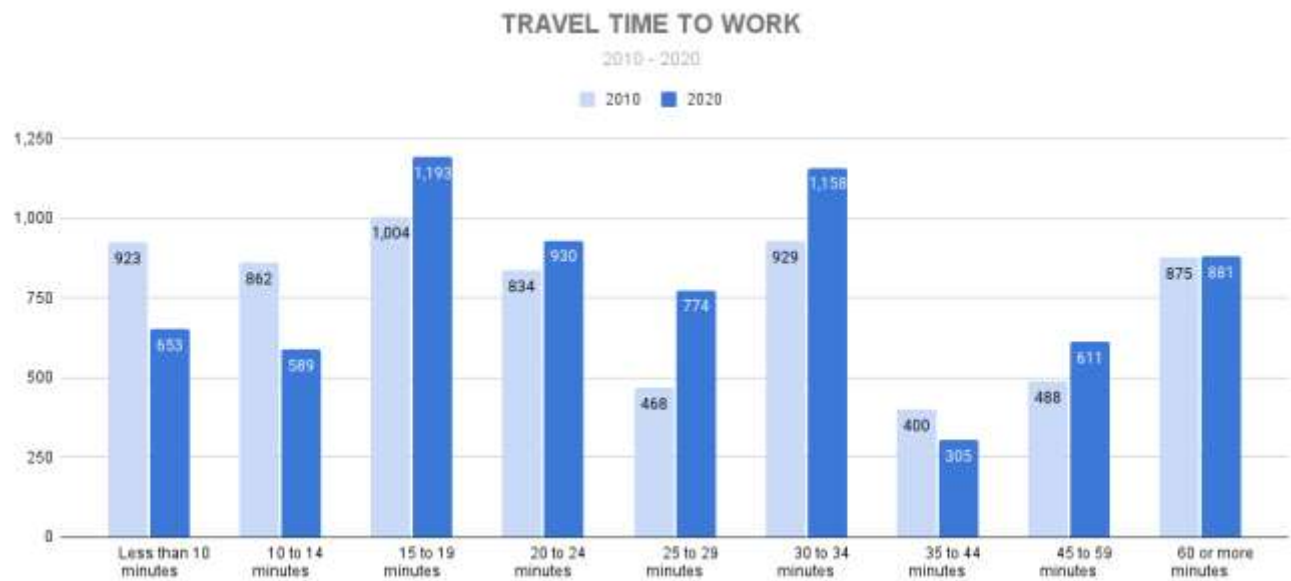


The average commute time increased from 27.9 minutes in 2000 to 29.3 minutes in 2020. The most common commuting method is driving alone at 77.1%, with carpooling in second at 8.8%.





The “worked at home” category has increased significantly from 132 (2.7% residents) in 2000 to over 1,159 (11.5% residents) in 2022. This increase can be contributed to the COVID-19 pandemic and work from home arrangements.



Summary of Socio-Economic Profile:

Over the past twenty years, the City of Havre de Grace has experienced significant growth from substantial increase in population, the considerable increase of total square miles of land, and due to an overall increase of housing supply in relation to known and anticipated future residential development as outlined in the Municipal Growth Element of the Comprehensive Plan. The City’s population growth will begin to stabilize compared to previous trends as there is less available land for residential development. In addition to population, income levels are continuing to rise at a steady rate in addition to home-ownership despite inflation. Population diversity in terms of racial composition continues to be increasing as housing and employment opportunities increase, reflecting a healthy and vital community.

HOUSING ELEMENT: DATA AND ANALYSIS

OVERVIEW

The Housing Element is a requirement by the House Bill 1045. The Housing Element shall address the City's need for affordable housing, to include both workforce and low-income housing, and may include housing goals, objectives, policies, plans and standards. Through analyzing these factors and patterns of change over time, the City is able to identify trends, emerging needs and demands for residents and visitors for the next 20 years in relation to housing. The data presented below provides valuable insight regarding future conditions while examining past and present trends, thereby enabling informed judgement for many important City projects. For this reason, some data presented below will be discussed throughout the Comprehensive Plan.

Most of the data included in this Housing data section comes from the 2006-2010 & 2016-2020 American Community Survey (ACS) and U.S. Census Bureau Decennial Data. Beginning with the 2010 Decennial Census, the Census Bureau stopped distributing the traditional 'long form' survey that historically provided enhanced data. These included housing statistics (e.g., unit makeup, year built, value). These summary files were replaced by American Community Survey (ACS) data, which are available in five-year estimates.

HOUSING DATA

HOUSING SUPPLY

- Housing Type
- Housing Tenure
- Housing Occupancy
- Number of Bedrooms
- Value of Owner Occupied Units
- Housing Affordability
- Gross Rent
- Gross Rent as a Percentage of Income
- Selected Monthly Owner Cost
- Selected Monthly Owner Cost as a Percentage of Income

HOUSING DEMAND

- Municipal Population Trends
- Household Characteristics
- Age of Housing Stock
- Commute to Work
- Residential Building Permits

HOUSING TREND

HOUSING SUPPLY:

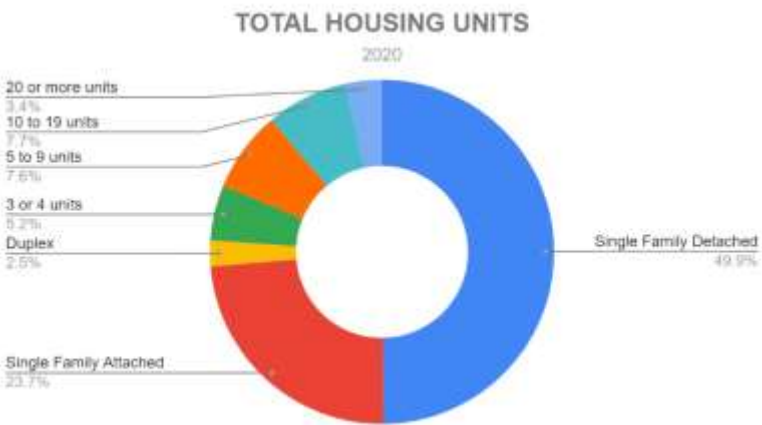
Housing Type: Percentage of Units by Type (Single Family Detached/Attached, Duplex, Multi-Family)

Housing is defined as a house, an apartment, a group of rooms, a single room occupied and excluding a mobile home or trailer, as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall. For vacant units, the criteria of separateness and direct access are applied to the intended occupants whenever possible.

Units in Structure ▾	2000	% Total	2010	% Total	2020	% Total
TOTAL HOUSING UNITS	4,856	100.0%	5,867	100.0%	6,374	100.0%
Single Family Detached	2,274	46.8%	2,611	44.5%	3,174	49.8%
Single Family Attached	1,051	21.6%	1,494	25.5%	1,511	23.7%
Duplex	210	4.3%	266	4.5%	156	2.4%
3 - 4 units	425	8.8%	428	7.3%	331	5.2%
5 - 9 units	395	8.1%	376	6.4%	488	7.7%
10 - 19 units	183	3.8%	423	7.2%	493	7.7%
20 or more units	318	6.5%	269	4.6%	221	3.5%

Note: When 2006-2010 or 2016-2020 ACS data are used for analysis, total housing units will differ than those in the Decennial Census

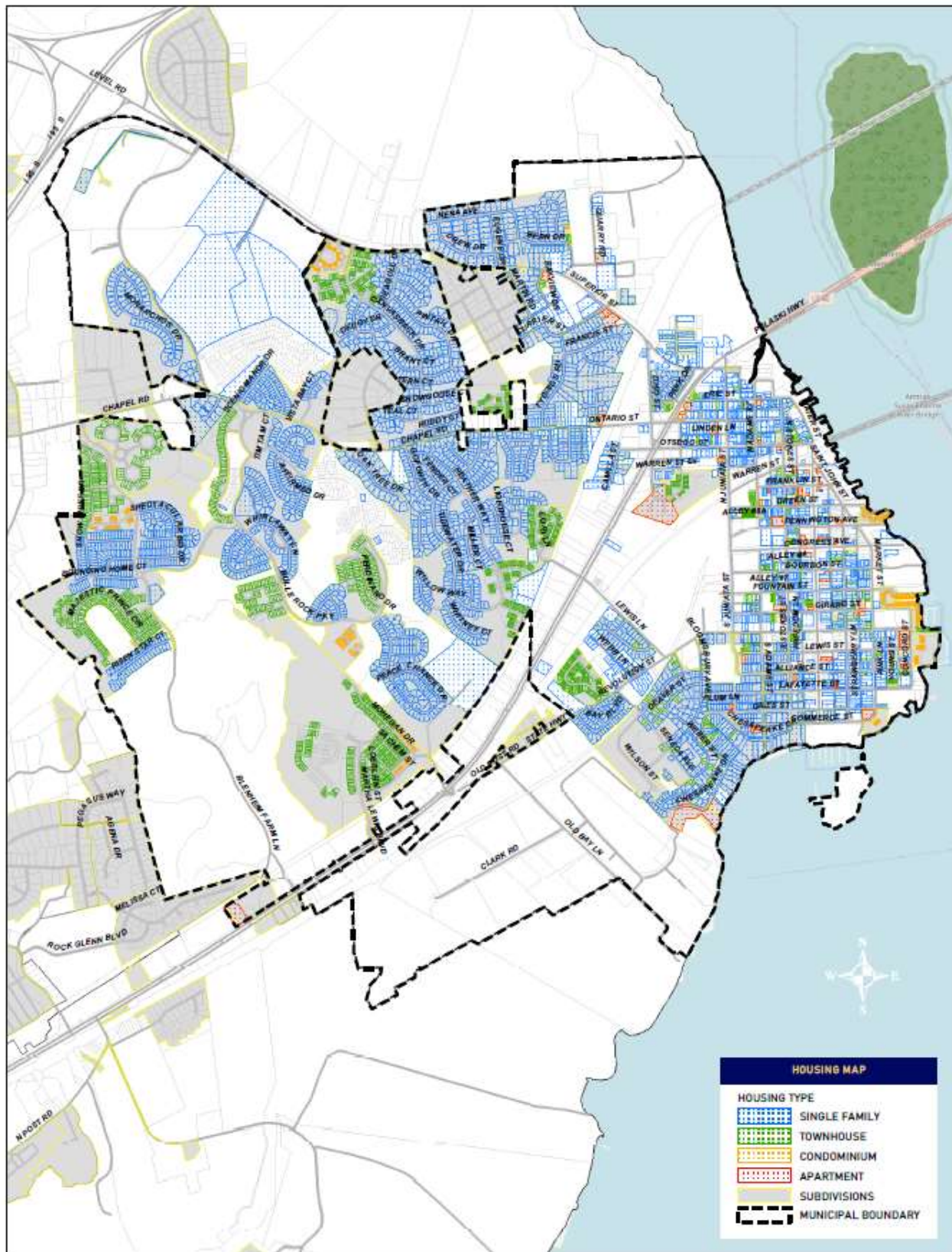
Total Housing Units by type is a key indicator of a community's housing diversity. Not every household can afford to buy or rent a single-family house, and not everyone may desire to live in an apartment or condominium. By analyzing the Total Housing Units in relation to affordability, the statistics will provide more insight to the opportunities and constraints that exist in terms of overall housing supply.



Housing Tenure: The Percentage of Owner vs. Renter Occupied Units



Map of Housing Unit Types



Data Source: Harford County Department of Planning and Zoning, Division of Geographic Information Systems and Analysis

COMPREHENSIVE PLAN: HOUSING DATA

Housing Type	1990	% 1990	2000	% 2000	2010	% 2010	2020	% 2020	2022	% 2022	1990-2022	1990-2022 % Change	2000-2022 % Change
Owner Occupied	1,595	45.5%	2,538	56.0%	3,293	60.9%	4,144	67.2%	4,288	70.4%	2,693	168.8%	69.0%
Tenant Occupied	1,910	54.5%	1,998	44.0%	2,114	39.1%	2,025	32.8%	1,805	29.6%	-105	-5.5%	-9.7%
Vacant	107	2.8%	339	7.0%	617	10.5%	484	7.3%	406	6.2%	299	279.4%	19.8%
Occupied Housing Units	3,505	92.6%	4,536	93.1%	5,408	92.1%	6,169	92.7%	6,093	93.8%	2,588	73.8%	34.3%
Total Housing Units	3,786	100.0%	4,874	100.0%	5,875	100.0%	6,653	100.0%	6,499	100.0%		71.7%	33.3%

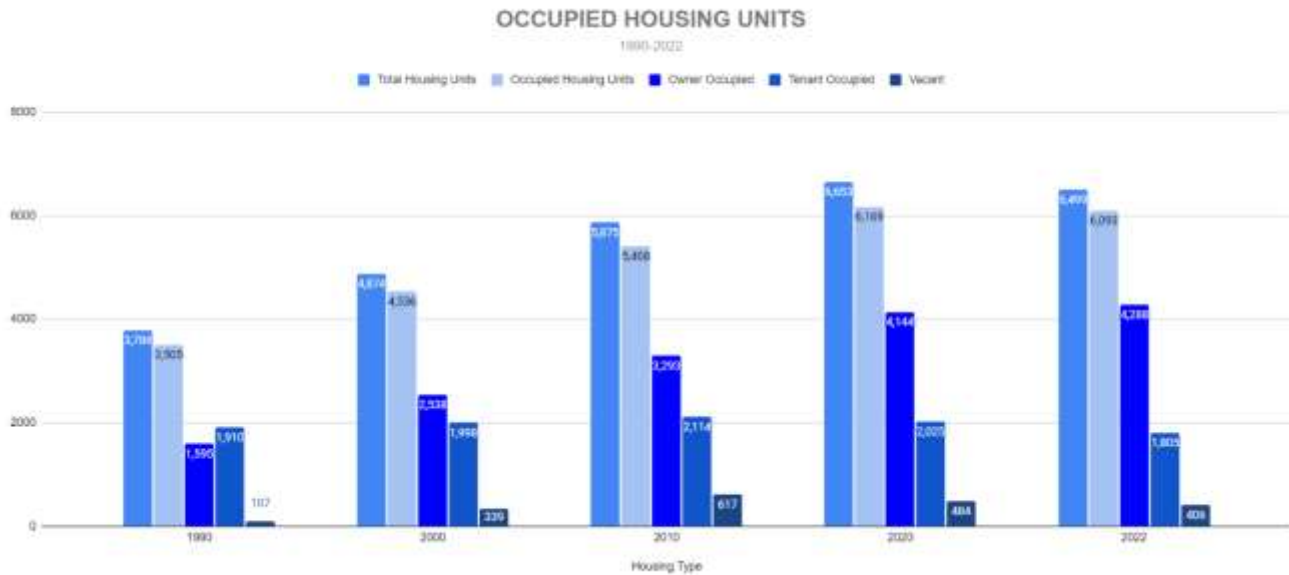
Data Source: [Decennial Census Data](#) and [ACS 5 Year Estimates](#)

Recent spikes caused by COVID-19 in relation to housing have become increasingly glaring. The demand for housing and the impact to the cost and financing of housing in terms of renting or buying is exorbitant. Overall, the percentage of Renter-verses Owner-occupied units has changed significantly during the past 30 years from renter (54.5%) occupied to primarily owner (70.4%) occupied. This trend is expected to continue as more single family attached and detached units are constructed. For more information, please see the Municipal Growth Element, Development Capacity Analysis for anticipated build out over the next 10-20 years.

Housing Occupancy: Percentage of Occupied vs. Vacant Housing Units. A housing unit is classified as occupied if it is the usual place of residence of the person or group of people living in it at the time of enumeration.



In 2000 there were 339 (7.0%) Vacant Housing Units with 4,536 Occupied Housing Units in the City which has decreased to 406 (6.2%) Vacant Housing Units with 6,093 Occupied Housing Units in 2022, this is a 19.8% and 34.3% change since 2000 respectively. During the past 30 years Housing Units have maintained over 90% occupancy of the total units available. The Occupied Housing Units statistics provide a measure of the viability of the local housing market and may infer the condition of housing units. Limited vacancy is good because it allows for new and existing residents to find housing units, but too much vacancy may indicate a weaker market or substandard housing. Too little vacancy may also indicate insufficient housing supply.

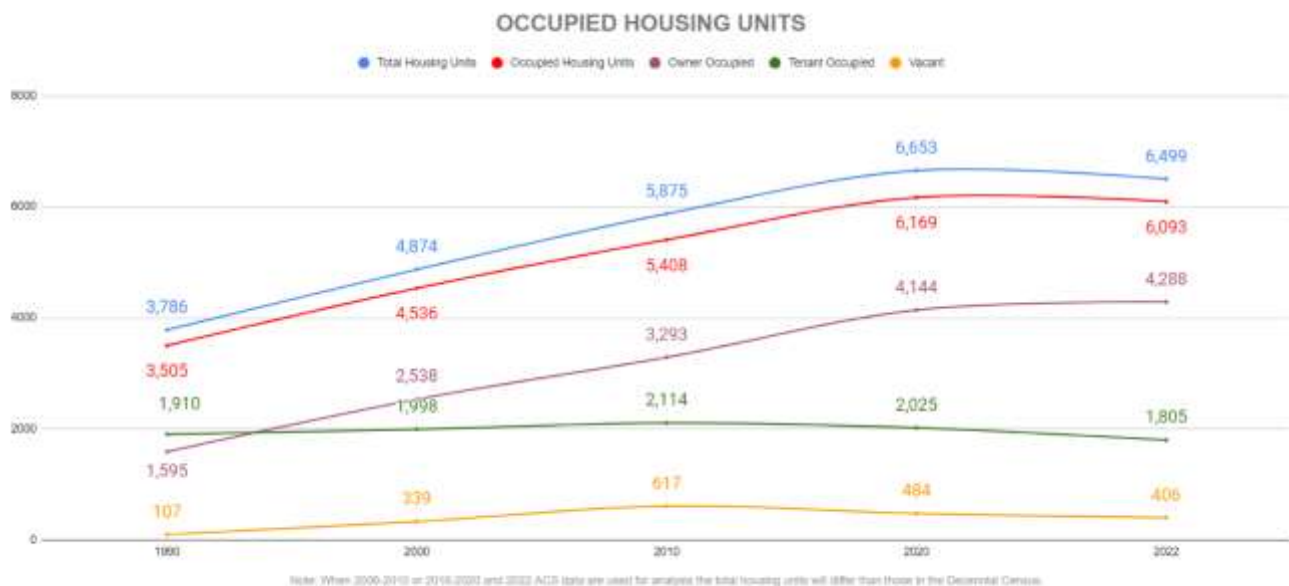


Note: When 2006-2010 or 2016-2020 and 2022 ACS data are used for analysis the total housing units will differ than those in the Decennial Census.

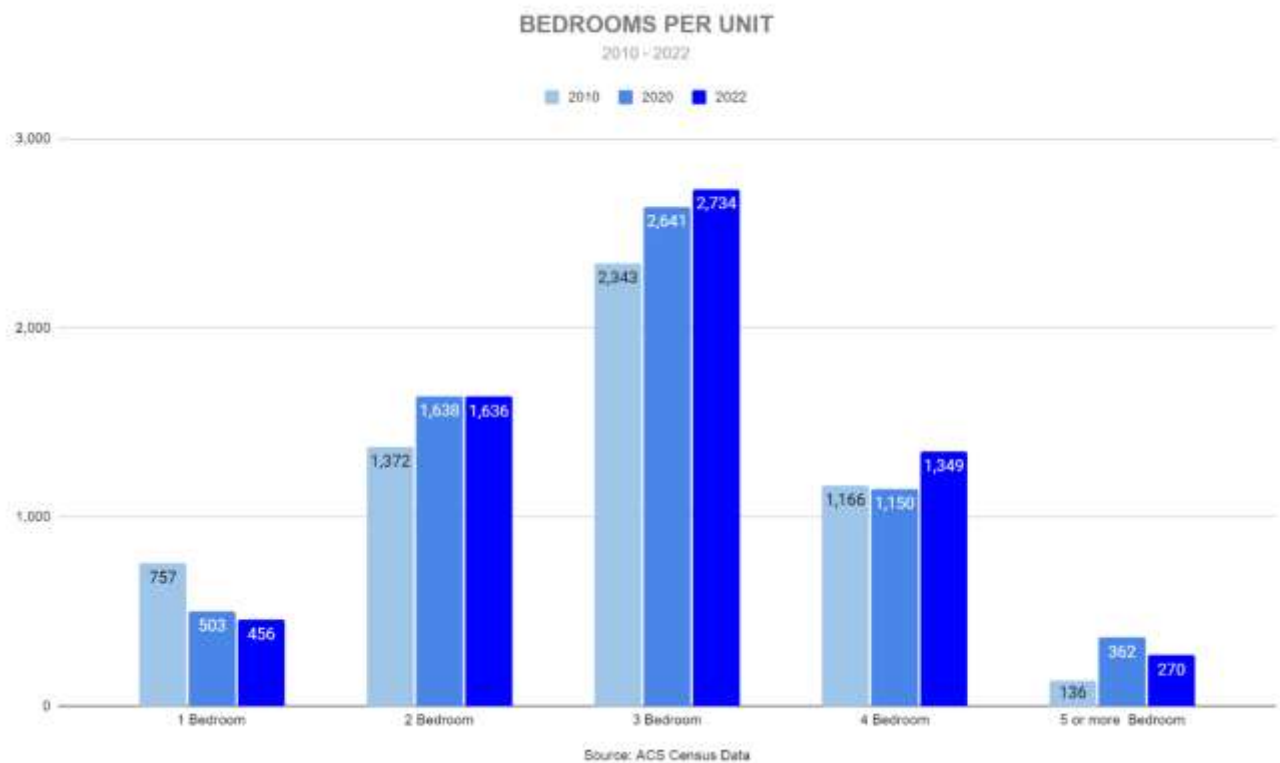
Trends

- 12.7% Increase since 2010 {685 new total occupied housing units}
- 30.2% Increase since 2010 {995 new owner occupied housing units}
- -14.6% Decrease since 2010 {309 unit loss renter occupied housing units}

The 2022 ACS Census identified a total of 6,499 housing units which is an increase of 10.0 % {9.97%} since 2010. This trend equates to an average yearly increase of 0.8% growth since 2010.

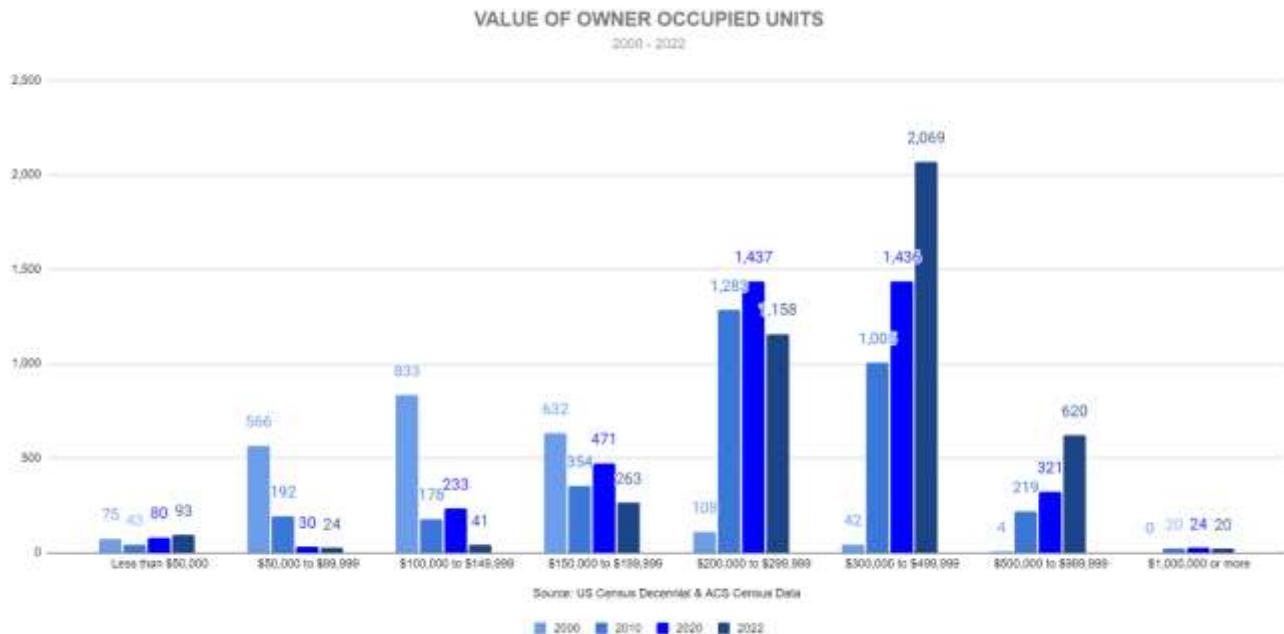


Bedrooms: The number of bedrooms is the count of rooms designed to be used as bedrooms; that is, the number of rooms that would be listed as bedrooms if the house, apartment, or mobile home were on the market for sale or for rent. Included are all rooms intended to be used as bedrooms even if they currently are being used for some other purpose.



The City has mostly two and three bedroom housing units (1,636 units or 25% and 2,734 units or 42% respectively) followed by four bedroom units (1,349 units or 21%) and one bedroom condominiums (456 units or 7%). While this figure does not directly address the square footage of a unit, typically more bedrooms may often equate to higher costs. Larger houses with more bedrooms can also provide suitable housing for families and extended family households, which is especially pertinent given the substantial senior population in the City. Also, with the growing trend of working from home additional space is necessary for a home office. This is one factor that may affect the long-term ability of individuals and families to age in place, among other housing considerations. This all points to the need for the City to encourage a variety of housing choices as the City continues to develop and/or the housing stock expands.

Value of Owner-Occupied Units: Count of housing units at different value ranges



The City contains a total of 4,288 owner-occupied housing units at various values with the median value of owner occupied units being \$342,200 as of 2022 ACS. 1,158 owner-occupied units are between \$200,000 to \$299,999 dollars (27%) and 2,069 owner occupied housing units are between \$300,000 to \$499,999 dollars (48.2%). This makes up over 75.2% of the total owner-occupied housing units with the remainder 9.9% below \$200,000 and 14.9% above \$500,000. Notice the change over time of higher value housing units from 2000 to 2022.

Housing Affordability: The information on selected monthly owner and rental costs and burden rate in Harford County.

AFFORDABLE AND WORKFORCE HOUSING (2022)	2020 (AMI)	30% Extremely Low Income	50% Very Low Income	60% Low Income	80%	100%	120%
Havre de Grace	\$80,853	\$24,256	\$40,427	\$48,512	\$64,682	\$80,853	\$97,024
Havre de Grace Monthly	\$6,737	\$2,021	\$3,368	\$4,042	\$5,390	\$6,737	\$8,085
Housing Burdened (30%)	\$23,447	\$7,034	\$11,724	\$14,068	\$18,758	\$23,447	\$28,137
Monthly Housing Cost (30%)	\$1,954	\$586	\$977	\$1,172	\$1,563	\$2,021	\$2,345

HUD Defines:

- Extremely low income is less than 30% AMI
- Low income is less than 50% AMI
- Moderate income is 50% to 80% AMI
- Median income is more than 80% to 120% AMI

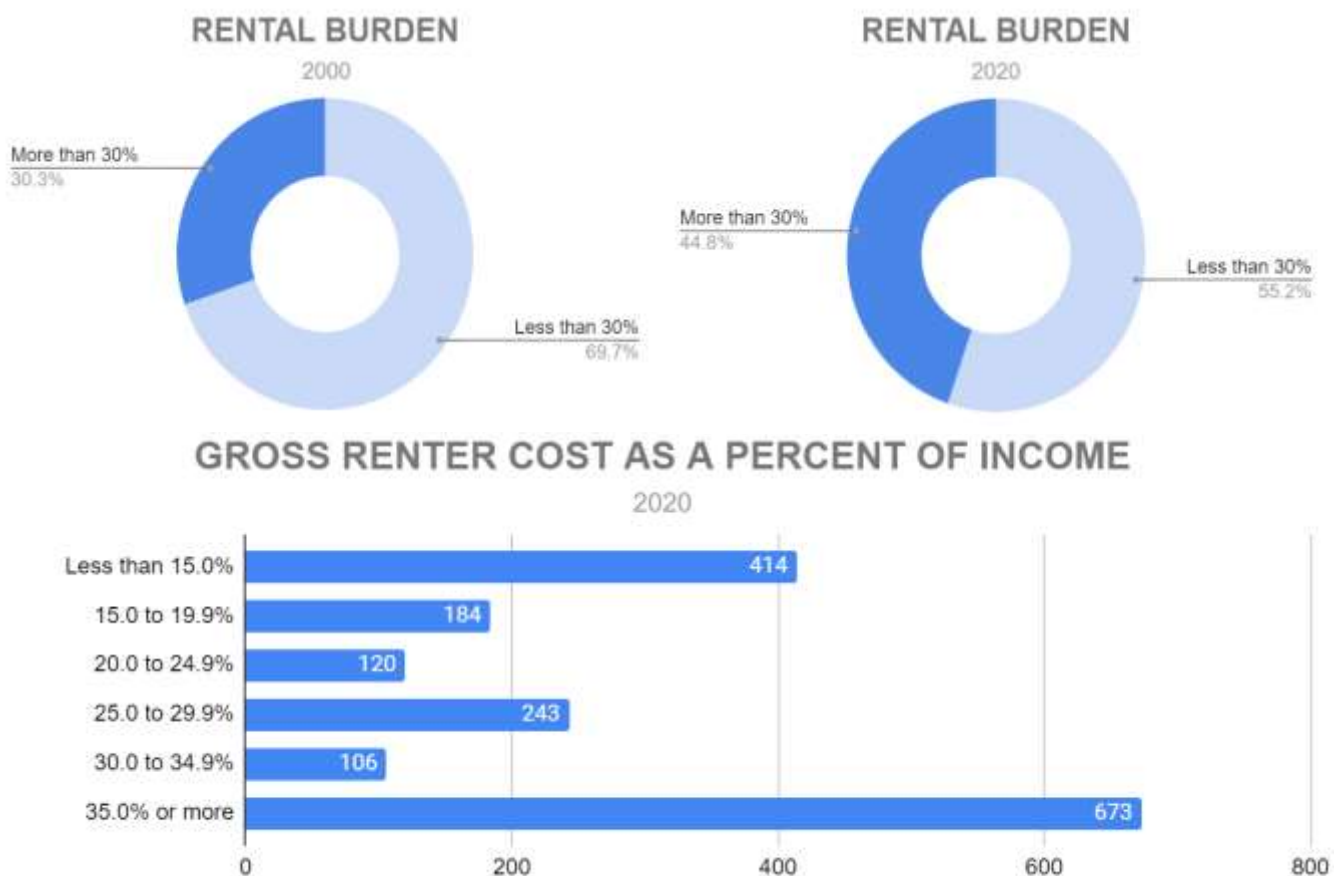
The Maryland Department Planning [Housing Affordability Dashboard](#), Baltimore-Columbia-Towson Area, is provided in the *Housing* chapter and shows the full range of monthly housing costs which collapses them into categories of less than and more than 30% (burdened) of monthly household income. This can facilitate an analysis of homeowner and rental housing burden in a study area or community. Please see below for specific Havre de Grace housing data.

Gross Rent: The amount of the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.)

MEDIAN MONTHLY RENT (2000 - 2020)	2000	2010	2020	2000-2020	% Change
Harford County	\$648	\$971	\$1,294		99.7%
Havre De Grace	\$543	\$858	\$1,054		94.1%
Aberdeen	\$373	\$463	\$669		79.4%
Bel Air	\$694	\$1,007	\$1,273		83.4%

This summary utilizes Decennial and ACS data to provide housing rental costs within a Harford County and its municipalities showing the change in median monthly rent from the year 2000 to 2020. The median monthly rental cost is \$1,054 for Havre de Grace. This information can be compared to affordable (less than 30%) monthly costs at the low-income and workforce limits, also provided by the [Housing Affordability Dashboard](#), Baltimore-Columbia-Towson Area, and provided in the *Housing* chapter.

Gross Rent as a Percentage of Income: GRPI is a ratio of monthly gross rent to monthly HHI.



Within Havre de Grace, 44.8% of renters are rental burdened. Conversely, 55.2% of gross rents are at or below the 30% rental burden. This is likely due to the most vulnerable residents in the City are renters when compared to owner cost with mortgage (see below). Overall, this data will facilitate an analysis of renter housing burden within Harford County. This information is specific to Havre de Grace and reflects Decennial U.S. Census long-form data for 2000 and ACS survey data for 2010 and 2020.

Selected Monthly Owner Costs: SMOC are calculated from the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condominium fees.

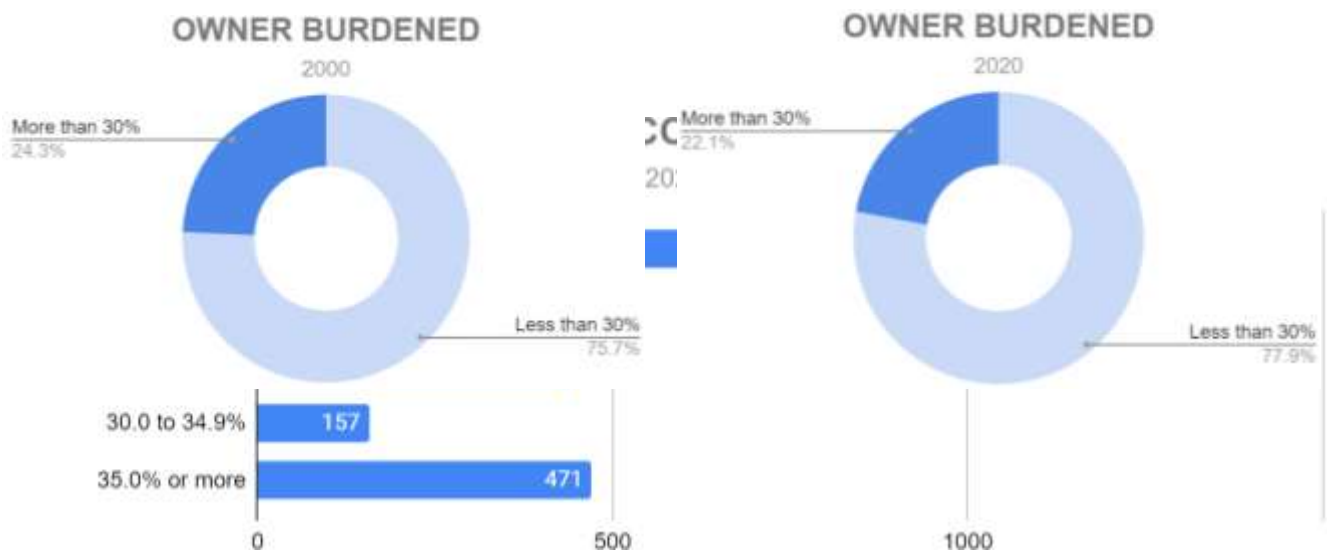
MEDIAN MONTHLY WITH MORTGAGE (2000 - 2020)	2000	2010	2020	2000-2020	% Change
Harford County	\$1,242	\$1,858	\$1,912		53.9%
Havre De Grace	\$1,214	\$1,869	\$1,893		55.9%
Aberdeen	\$776	\$1,089	\$1,311		68.9%
Bel Air	\$1,194	\$1,607	\$1,793		50.2%

This summary utilizes 2000 Decennial and 2010-2020 ACS data to provide the housing owner costs within Harford County and its municipalities showing the change in median monthly mortgage cost from the year 2000 to 2020. The median mortgage in 2020 is \$1,893 with 78% of owner-occupied mortgage cost below 30% AMI. There are 2,841 housing units with a mortgage in 2020. This information can be compared to affordable (less than 30%) monthly costs at the low-income and workforce limits, also provided by the [Housing Affordability Dashboard](#), Baltimore-Columbia-Towson Area, and provided in the *Housing* chapter.

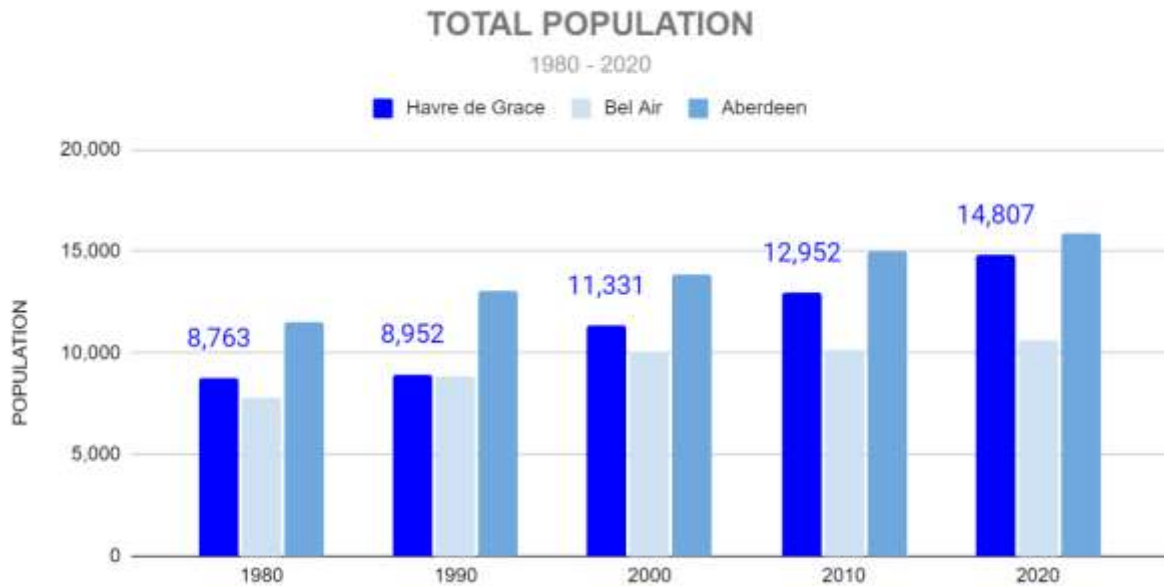
MEDIAN MONTHLY WITHOUT MORTGAGE (2000 - 2020)	2000	2010	2020	2000-2020	% Change
Harford County	\$321	\$526	\$598		86.3%
Havre De Grace	\$317	\$540	\$650		105.0%
Aberdeen	\$298	\$407	\$501		68.1%
Bel Air	\$355	\$568	\$594		67.3%

Selected Monthly Owner Cost as a Percentage of Income: SMOCAPI is a ratio calculated from the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condominium fees.

HOUSING DEMAND:



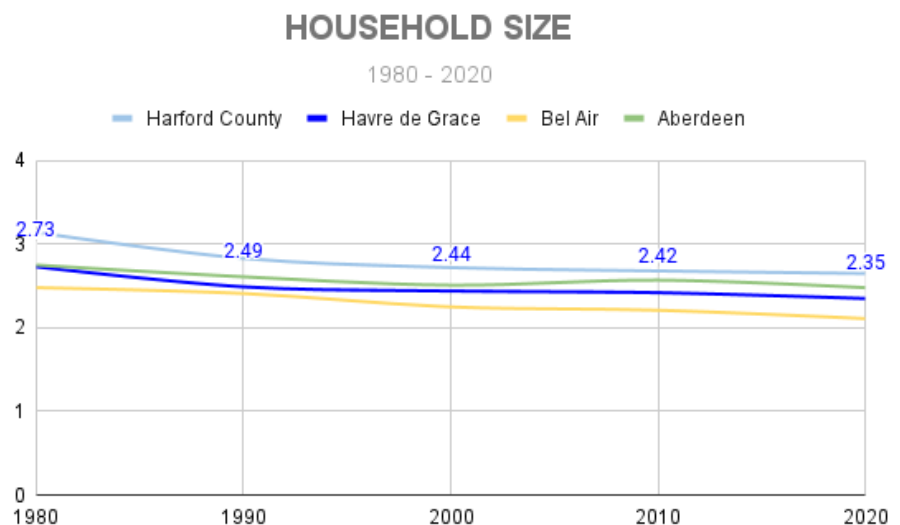
Municipal Population Trends: Total residents within Harford County's Municipalities in relation to average household size and the percentage of youth and seniors within a household, year resident moved into units, method of transportation to work and general permit data trends.

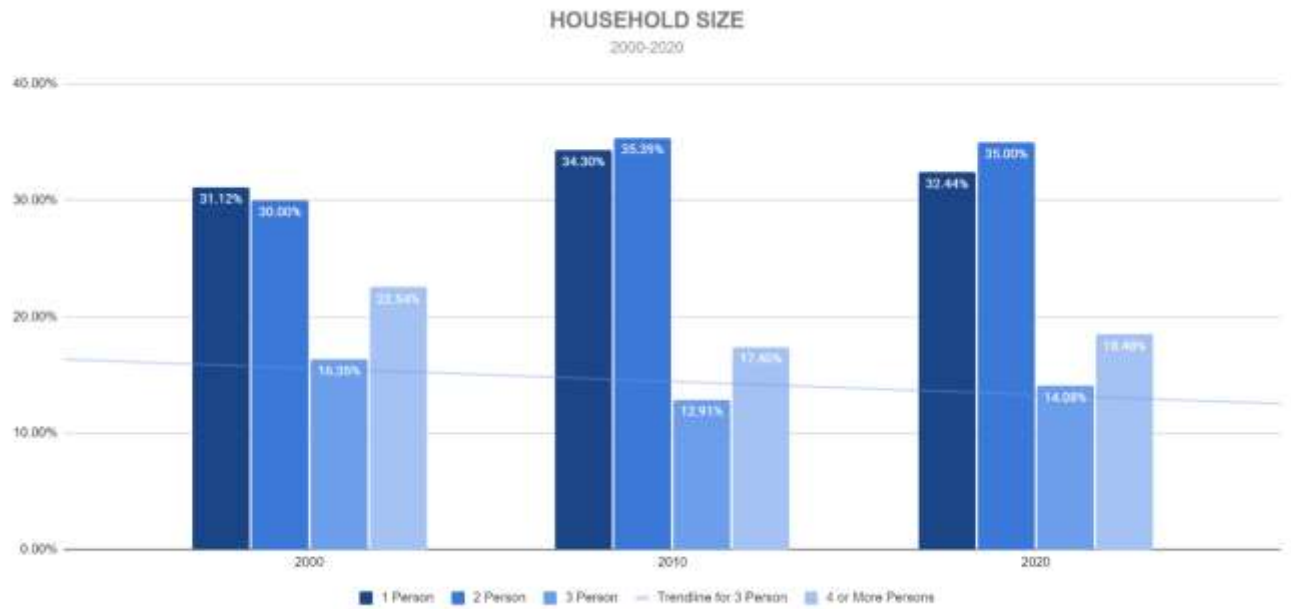


According to the 2020 US Decennial Census the City has a population of 14,807 residents. The population has increased 65.4% since 1990 as a result of building, developments and annexations west of Route 40/Pulaski Highway. The average household size is slowly decreasing from 2.49 in 1990 to less than 2.35 in 2020. This trend is indicative of a generation waiting to have children, the cost of 2–3-bedroom home ownership, childcare with health services and overall cost of living being adversely disproportionate to income, housing availability and access to employment in relation to opportunities within the City.

Household Size:

Overall, the average household size is decreasing from 2.49 in 1990 to 2.35 in 2020, with the number of single person households steadily increasing over time. The data suggests smaller housing types are likely to be in demand as people age and household sizes decreases.



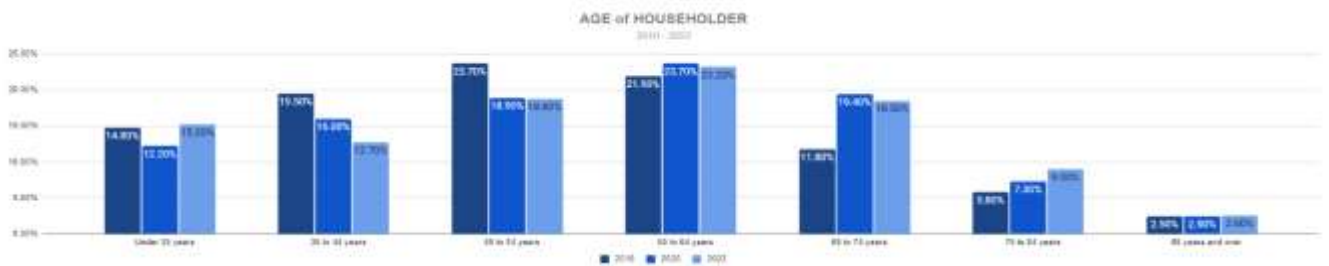


The graph above provides a quick snapshot of the number of persons by household within the City from 2000 to 2020. These types of data help show the overall trends for indicating what kinds of units it may be needed in the future in order to accommodate housing needs and choice.



There are also potential public health implications of older residents living alone. In general, as the City's population ages, there are specific housing requirements to take into consideration such alternative transit options, walkability, and access to health services.

Age of Householder:

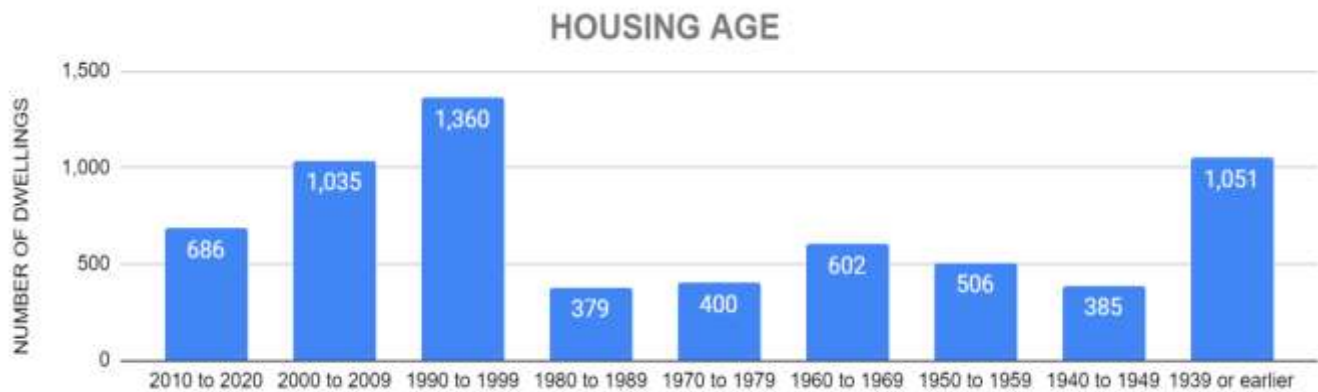
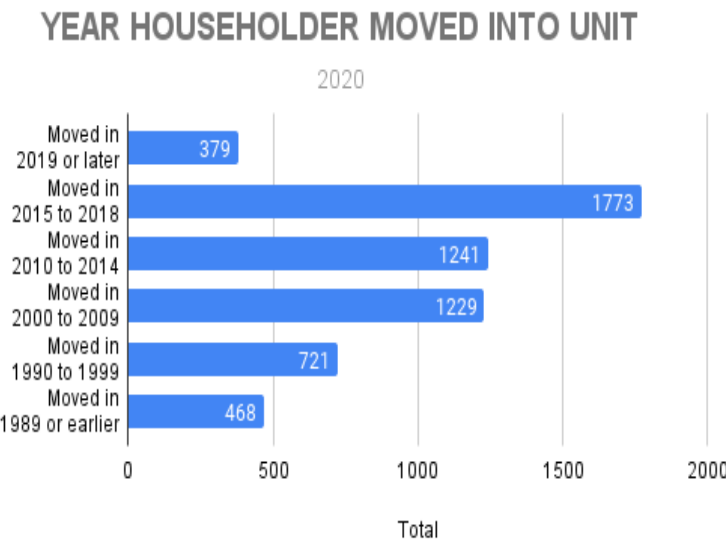


The median age of 45.3 is reflected in the age of householders with 53.3% over the age of 55 in 2022 compared to 42% in 2010.

Year Household Moved into Unit: Count of households by year range that they moved into their current residence

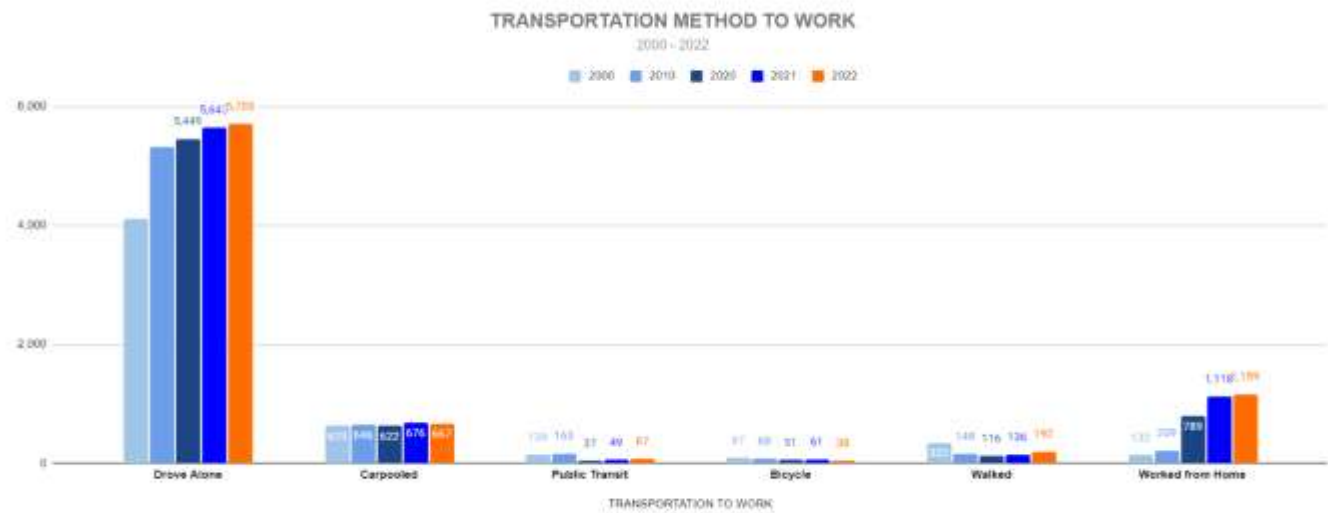
The median year housing structures were built can be an indicator of the condition and livability of the housing stock. Older buildings typically require a greater degree of upkeep and maintenance.

Structures built prior to 1974 (50 year minimum) are eligible for listing on the National Register of Historic Places (NRHP). Approximately 3,595 (56%) of the City’s housing stock meets this criterion. The opportunity for working with property owners to maintain and renovate these historic structures in the older downtown neighborhoods will provide significant value to the overall historic character of the City



In the City, 3,081 units (48.1%) of the housing stock was built after the year 1990, with 3,323 units (51.9%) constructed prior. Older homes typically have a higher chance of deteriorating from neglect and lack of maintenance. Although several factors influence the maintenance of a building, typically older homes have a higher cost to refurbish and update to make the necessary accommodations that new construction offers. This cost contributes to the overall monthly cost of home ownership and livability that influence a person’s quality of life.

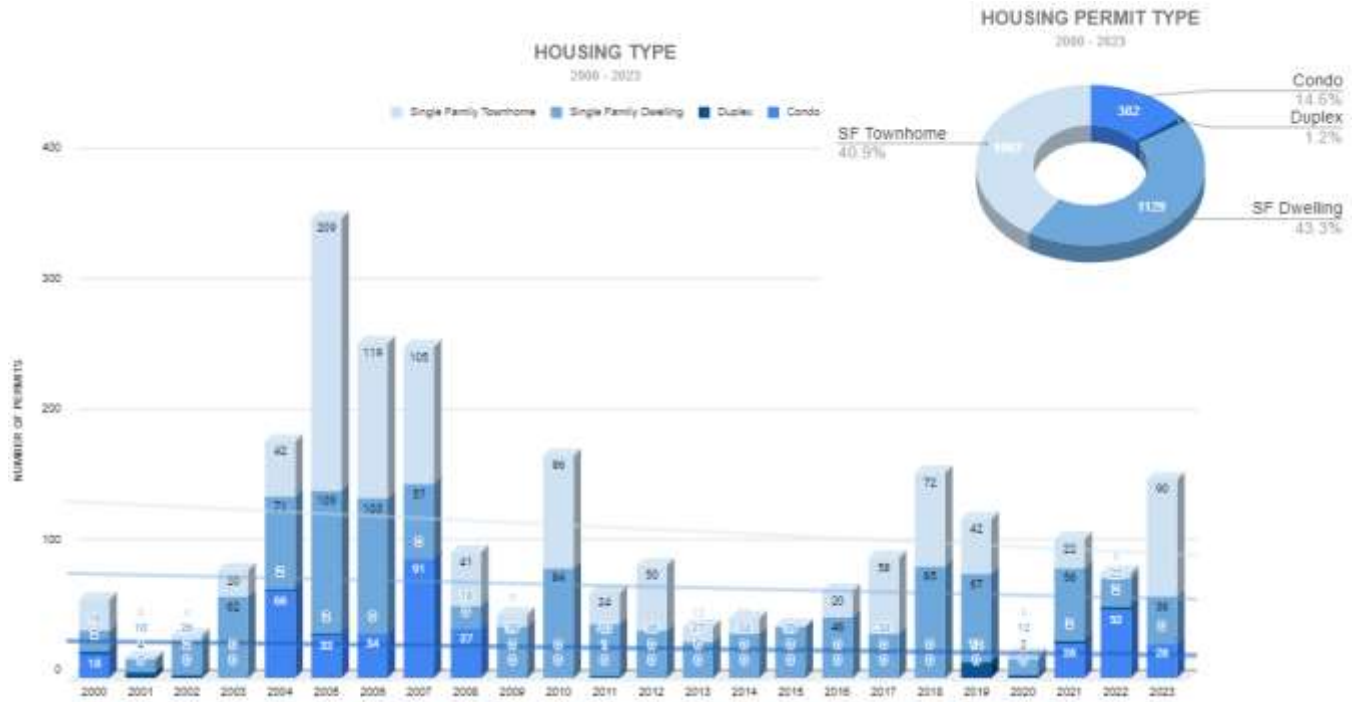
Commuting to Work: Percentages of how individuals commute to work in varying categories



Housing and transportation are closely linked. This data point allows a jurisdiction to gauge how its residents get to work and can assist the planning objective of promoting proximity between jobs and housing or housing and transportation facilities.



Residential Building Permits:



The total housing permits based on housing type (SFD, SFTH, Duplex, and Condominium) since the year 2000. The data infers that there is a slight increase of smaller single unit condominiums since the 2020 COVID-19 pandemic. Whether or not this trend will continue to sustain is to be determined. Overall, the single-family attached and detached dwellings make up the majority of the housing stock and this trend is expected to continue.

HOUSING TRENDS

By 2030, stakeholders would like Havre de Grace to be a more affordable and connected place to live, work, and explore. The City has grown 23.5% since 2000 with a population over 14,807. There are 2,457 housing permits issued and currently has over 5,811 occupied households with a median income of \$80,853. Growth has accelerated during the 1990s throughout 2020 with 48.1% of new homes constructed. The City recognizes a need to provide a range of housing densities, types, sizes and residential options that are accessible for a range of citizens while embracing the City's roots to provide a sustainable and equitable quality of life.

Just like with all communities after the 2008 national financial crisis, Havre de Grace experienced a decrease in new housing permits, and there is a divide in the housing supply between higher and lower income within the market. The need to provide "missing middle" housing is growing. Building permit activity declined since 2008 with only 1,041 permits issued in Havre de Grace. Since then, building permits have increased but not to pre-pandemic levels. A total of 985 permits were issued during the period of 2008 and 2020, of which approximately 61% were for new dwellings in Havre de Grace. Building permit activity generally declined since 2008 and increased in 2016 slightly and has been declining since 2018.

Recently with the COVID-19 pandemic, housing values and mortgage rates have spiked. This surge has caused an increase of homeownership in addition to reducing vacant buildings and parcels downtown. Since 2020 there have

been 203 permits issued for the construction or modification of new housing units in addition to accessory dwelling units (ADUs). The shift from single-family detached homes to smaller condominiums and duplex housing options is growing. With 84 new housing permits issued since 2020 for smaller duplex and condominiums. This makes up 41% of permits issued for smaller housing size that's consistent with the single, senior, and young adult population shift reflected in the demographic trends.

Future projections are expected to increase for smaller condominium and duplex housing permits over single-family detached housing in addition to ADUs with both short/long term rentals becoming increasingly popular. Havre de Grace recognizes the momentum of the housing market and encourages development through private and public partnerships for targeted revitalization and assistance of at-risk populations. The build-out of large neighborhoods continues west of US 40 and infill of vacant lots in the downtown neighborhoods offer walkable connections and multimodal access, making those areas increasingly desirable. As the City continues to appeal to residents, the demand to supply a range of housing options is necessary. By increasing Infill development with Smart Growth and transit-oriented models, the City may create a more compact, dense, and diverse downtown that is walkable and accessible. Given the potential for opportunity, the City is committed to the people to advance inclusive and equity focused housing programs, policies and sustainable ownership opportunities to continue the make Havre de Grace a more appealing and desirable City.

ANALYSIS AND POLICY

CURRENT HOUSING PROGRAMS

- Provide link to affordable housing resources: <https://planning.maryland.gov/Pages/OurWork/housing-element-mq/affordable-housing-resources.aspx>

POLICIES AND IMPLEMENTATION STRATEGIES

- Review MDP "Common Practices" and "Best Practices": <https://planning.maryland.gov/Pages/OurWork/housing-element-mq/common-practices.aspx>
 - Highlight programs they we are not utilizing that we should look into to solve our problem areas: <https://planning.maryland.gov/Pages/OurWork/housing-element-mq/affordable-housing-resources.aspx>
-



City of Havre de Grace

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City of Havre de Grace Residential Development Capacity - January 2024

This analysis is an updated refinement of an analysis submitted with the 2022 calendar year report. The updated information is an estimate of possible residential development, medium density, within the city limits of Havre de Grace. The stated acreage is an estimate of the residential portion, not including community open space.

The land area of the Jonathan Green Farm and Peter Ianiello Farm was annexed into City limits in 2013. This land area was submitted for PFA Consideration in December, 2022 and approved to be included in the Priority Funding Area on January 6, 2023, which will be reflected on the 2025 Development Capacity projection. The proposed development is to be mixed use, including agricultural, commercial, residential, and retaining the established conservation easement. The stated acreage is an estimate of the residential portion which may include detached, attached, and multi-family.

MAJOR AND MINOR SUBDIVISIONS	TOTAL DWELLINGS	TOTAL LOT ACREAGE
Number of individual vacant lots for single family detached dwellings (minor in-fill - assumed capacity for one new dwelling per vacant lot)	65	12.59
Bulle Rock (proposed residential development remaining) (includes detached, attached, and multi-family)	539	39.18
Greenway Farms (proposed attached development remaining)	198	22.75
Blenheim Run Apartments	60	0.65
Bloomsbury Park (projected total attached dwellings)	150	15
* Lampson Property (annexation effective 6/16/22)	37	8.95
Juniata at Superior St (subdivided buildable lots remaining - attached)	7	0.5
* Jonathan Green Farm (projected SFD, attached & multi-family)	284	81.5
Sion Hill Estates (Green Phase I)	144	6
* Peter Ianiello Farm/ Mount Felix (Townhomes)	49	6.26
* Peter Ianiello Farm/ Mount Felix (4 projected 24 unit multi-family)	96	4.41
TOTAL RESIDENTIAL CAPACITY WITHIN THE PRIORITY FUNDING AREA	1629	197.79
<i>* Number of units is estimated based upon latest review of informal plans submitted.</i>		
2022 COMBINED TOTAL RESIDENTIAL DEVELOPMENT CAPACITY	1685	240.5
2019 COMBINED TOTAL RESIDENTIAL DEVELOPMENT CAPACITY	1952	262.2
2016 COMBINED TOTAL RESIDENTIAL DEVELOPMENT CAPACITY	2630	130
Comp Plan 2010 COMBINED TOTAL PROJECTED RESIDENTIAL CAPACITY	2749	-
Comp Plan 2004 COMBINED TOTAL PROJECTED RESIDENTIAL CAPACITY	3075	-



Havre de Grace Citywide Water System Hydraulic Model Update and Hydraulic Analysis

City of Havre de Grace, MD

Draft for Review

This document is in draft form. A final version of this document may differ from this draft. As such, the contents of this draft document shall not be relied upon. GHD disclaims any responsibility or liability arising from decisions made based on this draft document.

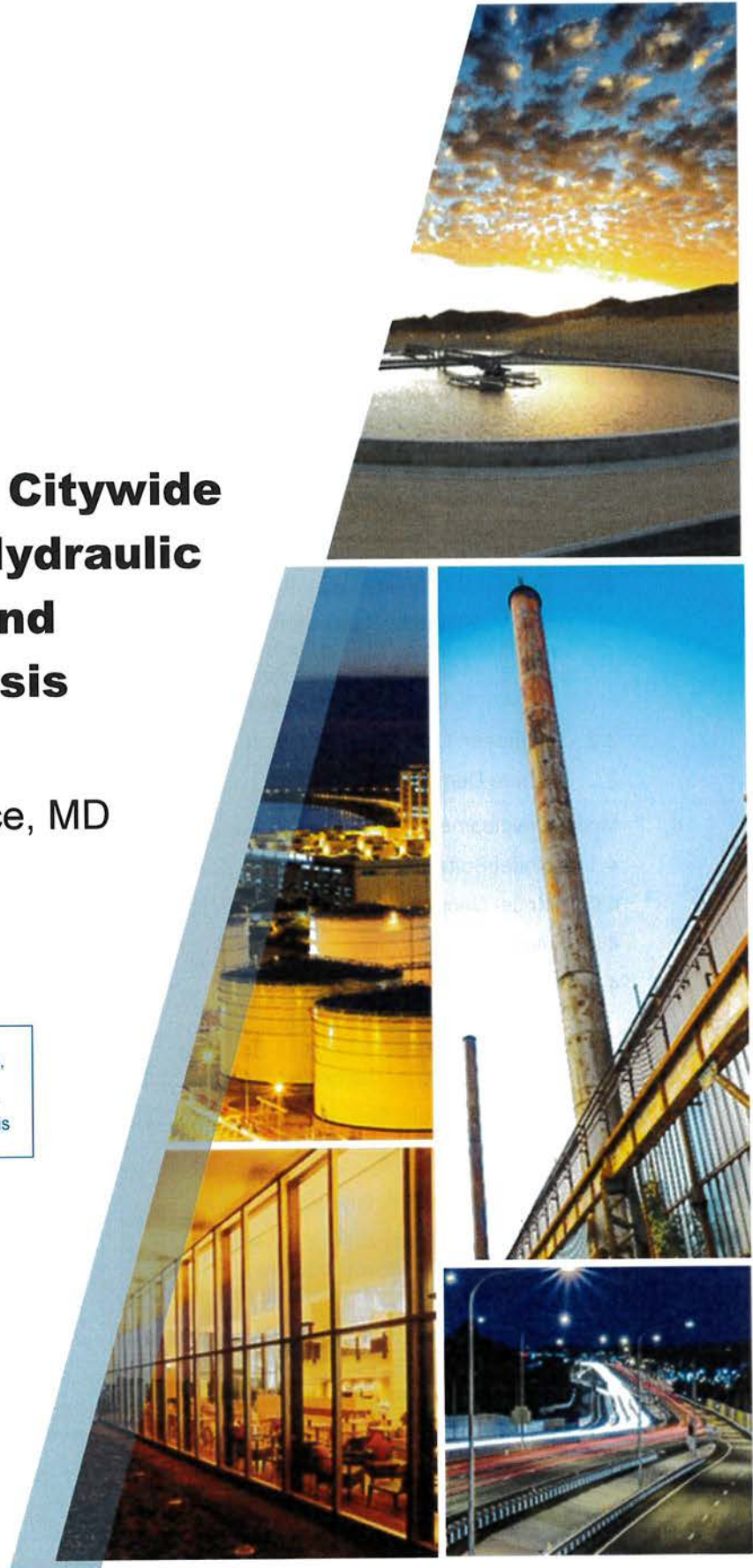




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1. Introduction

The City of Havre de Grace (City)'s current water system hydraulic model was developed by a previous consultant prior to 2007. The model was developed schematically and a uniform demand was applied across the entire network, not taking into account large users or other spatial demand variations. In 2009, GHD updated and calibrated the water model, as detailed in the 2009 *City of Havre de Grace Water Distribution System Model* report. GHD utilized geographic data obtained from Harford County to scale the provided model network and recompile the model. During GHD's update, demands were refined somewhat, but were still broken up into groups based on location and evenly applied across the water model within each group. Field testing and calibration were performed for the 2009 report; however, the results of the calibration indicated that there are system components that are unknown and additional pipe condition and hydrant flow testing was recommended, but not performed. The adjustments made to the water model during that calibration were significantly greater than would be normally accepted in engineering practice. As stated in that report the "difficulty of calibrating the Havre de Grace Water Model and the inability to significantly reduce disagreement between the simulated and observed static and residual pressures at several testing locations should be considered before using the model to aid design of future system infrastructure."

The hydraulic model has not been calibrated / validated since 2009, nor have future projections been comprehensively updated since that time. The City's distribution system was also recently surveyed, providing geographic data that can be used to develop a much more complete and detailed hydraulic model. The City requested GHD update the model based on currently available information, conduct hydrant flow field testing to calibrate the model, assist the City with future demand projections, and provide the City with a guide to system improvements to accommodate the projected growth.

The project goal is to develop a calibrated hydraulic model of the City's water distribution system, utilize the model to evaluate the City's ability to supply water, and assist the City in planning system improvements. This report details the process followed to develop the hydraulic model, the results from the model analysis, and recommended improvements to improve performance of the distribution system.

2. City Water Distribution System

2.1 Overview

The City operates and maintains a water distribution system that delivers water to residential, commercial, and industrial connections within the City. Water is supplied from the Havre de Grace Water Treatment Plant (WTP) which treats water withdrawn from the Susquehanna River.

The City consists of four pressure zones. Water is pumped into the lowest pressure zone, Zone 1, directly from the Havre de Grace WTP via the Havre de Grace WTP Pump Station (PS). Water is fed from Zone 1 into Zone 2 by the Graceview Booster PS. Water flows from Zone 2 into two drop zones, Zone 2D-I and Zone 2D-II, via pressure reducing valves (PRVs). Water can also flow from



the drop zones into Zone 1 via PRVs, but these are kept closed. A simplified hydraulic profile of the distribution system is shown in Figure 1.

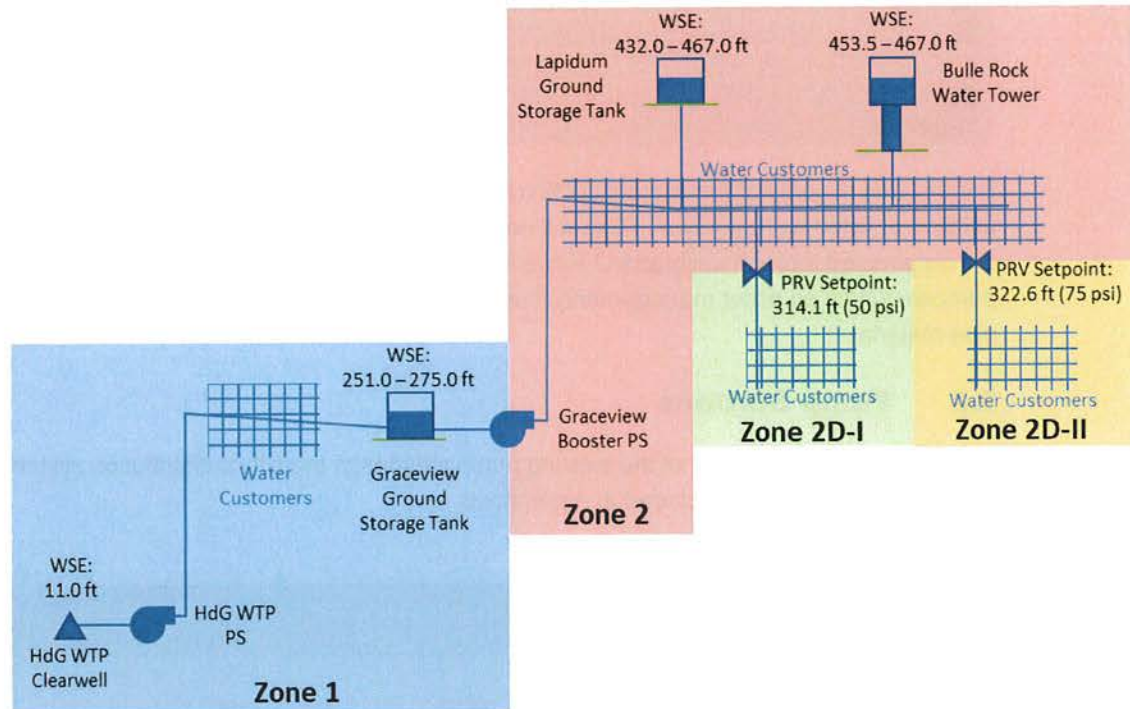


Figure 1 Havre de Grace Distribution System Simplified Hydraulic Profile

2.2 Distribution System Layout

In 2019, the City's water system was surveyed by Wallace Montgomery to develop an updated GIS database of all pipes, valves, and hydrants within the City, which were then reviewed by the City and imported into the City's Beehive Industries asset management system. GHD reviewed this data and worked with the City to identify and correct locations with data gaps, errors, and discrepancies. The data was also reviewed to make sure that each element had a unique identifier. A few pipes, listed as abandoned in the provided dataset, were removed.

See Figure A-1 in Appendix A for a map of the current water distribution system and City municipal boundary. See Table 1 for an inventory of pipe length by diameter of the cleaned up dataset.

Table 1 Distribution System Pipe Inventory

Pipe Diameter (Inches)	Length (ft)	Percent of Total Length
0.75	292	<0.1%
1	2,079	0.6%
1.5	399	0.1%
2	8,200	2.3%
3	320	<0.1%
4	35,769	9.9%
6	49,709	13.8%
8	183,144	50.7%



Pipe Diameter (Inches)	Length (ft)	Percent of Total Length
10	2,546	0.7%
12	66,343	18.4%
16	280	<0.1%
20	12,070	3.3%
30	29	<0.1%
Total	361,180	

For the vast majority of the system (77% by length), the GIS database has pipe material either unlisted or listed as "unknown". This will not impact the modeling as pipe hydraulic characteristics are determined through calibration. However, if the City wishes to use the GIS database for other purposes (such as asset management), they may want to perform field investigations to determine pipe material.

2.3 Pump Stations

See Table 2 for a summary of the existing pump stations in the City's distribution system. Pump curves for all pumps are included in Appendix B.

Table 2 Existing Pump Stations

Pump Station	Number of Pumps	Design Flow per pump (gpm)	Design Head (ft)	Location
Havre de Grace WTP PS ¹	3 ²			Into Zone 1
3600 rpm		1400	300	
3250 rpm		1000	280	
2880 rpm		700	250	
Graceview Booster PS	3			Into Zone 2
Pumps 1 & 2		360	200	
Pump 3		500	200	

Notes:

1. Havre de Grace WTP PS pumps are on VFD.
2. Although there are four finished water pumps at the Havre de Grace WTP PS, Pump 1 is a smaller pump used for water supply to the County and is not hydraulically connected to the City's distribution system. As such, only Pumps 2, 3, and 4 are included in this analysis.

All three pumps at the Havre de Grace WTP PS are on variable frequency drives (VFDs), allowing their speed to be adjusted if required. During typical operation one pump is in operation and the speed is adjusted automatically based on the discharge pressure recorded by a pressure transducer installed on the common discharge header within the WTP.

Three pumps are installed at Graceview Booster PS. Pumps 1 and 2 are identical and run in automatic and alternate (depending on demand) from fall to the beginning of summer; however, it is rare that both pumps operate simultaneously. During summer, the larger Pump 3 is run in automatic and Pumps 1 and 2 are shut off and placed on backup.

2.4 System Storage

The existing system consists of two ground storage tanks and one elevated storage tank as detailed in Table 3 and Table 4.

**Table 3 Existing Water Storage Tank Dimensions**

Tank	Diameter (ft)	Elevation (Base) (ft) ¹	Elevation (Minimum) (ft) ²	Elevation (Maximum) (ft)	Elevation (Overflow) (ft)
Graceview Ground Storage Tank	99.0	241.00	251.00	275.00	276.00
Lapidum Ground Storage Tank	40.0	432.00	432.00	467.00	468.00
Bulle Rock Water Tower ³	50.0	430.50	430.50	467.00	468.00

Notes:

1. Elevation (Base) is the level datum, the elevation equivalent to a level reading of 0.0 ft.
2. Elevation (Minimum) is the lowest water surface elevation allowable in the tank to provide pressure of 35 psi to all customers in the pressure zone.
3. Bulle Rock Water Tower has a spherical tank and diameter varies by elevation. Diameter listed is an approximate average diameter over the tank's operating range.

Table 4 Existing Water Storage Tank Volume

Tank	Total Volume (gal)	Effective Volume (gal) ¹	Pressure Zone
Graceview Ground Storage Tank	2,000,000	1,382,000	1
Lapidum Ground Storage Tank	400,000	329,000	2
Bulle Rock Water Tower	500,000	500,000	2

Note:

1. Effective volume is based on the minimum and maximum elevations listed in Table 3.

2.5 Pressure Reducing Valves (PRVs)

Water flows from Zone 2 into two drop zones, Zone 2D-I and Zone 2D-II, via PRVs. See Table 5 for a summary of the PRV set points.

Table 5 PRV Set Points

Label	Location	Zone Feeding	Pressure Setting (psi)	Elevation	Hydraulic Grade Setting (ft)
WV-1422	Chapel Road	Zone 2D-I	50.0	198.50	314.11
WV-2001	Bulle Rock Parkway	Zone 2D-II	75.0	149.24	322.65

2.6 Improvement Projects Under Design

The City identified a number of improvement projects that are already under design and will be constructed in the immediate future. These projects include:

- **Old Bay Lane Waterline Extension:** Construction of approximately 1,300 feet of new 8" ductile iron pipe connecting the dead-end 8" pipe along Old Bay Lane to the dead-end 6" pipe in the City Maintenance Yard adjacent to the City of Havre de Grace Wastewater Treatment Plant (WWTP).
- **Waterline Replacement – Green St:** Replacement of approximately 1,500 feet of 4" pipe with new 8" ductile iron pipe along Green St from N Adams St to St. John St.



- **Waterline Replacement – Wilson St:** Replacement of approximately 1,400 feet of aged 8" pipe with new 8" ductile iron pipe along Wilson St from Seneca Ave to Bloomsbury Ave.

See Appendix C for maps showing the improvement projects under design.

3. Demand Analysis

3.1 Current Demands

3.1.1 Water Production Data

Water production data from July 2016 to June 2019 was provided by the City. See Appendix D for a graph and Table 6 for a summary of daily water production during this period.

Table 6 City Finished Water Production Data Summary

	Value
Average Day	1.361 mgd
Maximum Day	2.100 mgd
Maximum Day Multiplier	1.54

3.1.2 Water Billing Data

Water billing data for fiscal year 2019 (July 2018 to June 2019) were provided by the City. The total billed water and the total produced water over fiscal year 2019 are compared in Table 7.

Table 7 Water Production and Water Billing Data Comparison (FY 2019)

	Total Annual Volume	Average Daily Volume
Total Water Produced	517.212 mg	1.417 mgd
Total Water Billed	434.866 mg	1.191 mgd
Percent Billed (Total Billed / Total Produced)	84%	
Global Adjustment Factor (Total Produced / Total Billed)	1.19	

There is a minor amount of unbilled water, which can be caused by a number of factors including:

- Water lost in the distribution system due to leaks and water main breaks.
- Unmetered connections.
- Inaccurate or uncalibrated water meters underreporting water usage.

Although the amount of unbilled water is not unreasonably high, it is recommended that the City investigate potential causes of the unbilled water.

To account for the unbilled water, the total water produced was divided by the total water billed to determine a global adjustment factor.



3.1.3 Demand Calculation

The average day demand (ADD) for each water account was calculated by multiplying the account's average daily volume of billed water by the global adjustment factor calculated in Table 7. The maximum day demand (MDD) for each water user was calculated by multiplying the ADD by the maximum day multiplier calculated in Table 6.

The Peak Hour Demand (PHD) was calculated based on the AWWA Standard Diurnal Curve for a 24-hour period (AWWA Manual M32, 1989). The peak hour multiplier per the Standard Diurnal Curve is 1.75 times the MDD, equivalent to 2.70 times the ADD.

See Table 8 for a summary of system demands.

Table 8 System Demand Summary

	Demand (mgd)
Total ADD (Total Water Billed * Global Adjustment Factor)	1.417
Total MDD (ADD * Maximum Day Multiplier)	2.182
Total PHD (MDD * Peak Hour Multiplier)	3.826

3.1.4 Demand Geolocation

Each billing account was georeferenced and linked to the associated parcel within the City, utilizing the billing account address. See Figure A-2 in Appendix A for a map of the current ADD. Total demand within each pressure zone is summarized in Table 9.

Table 9 System Demand Summary by Zone

Zone	ADD (mgd)	MDD (mgd)	PHD (mgd)
Zone 1	1.062	1.635	2.867
Zone 2	0.286	0.440	0.772
Zone 2D-I	0.045	0.070	0.123
Zone 2D-II	0.024	0.037	0.065
Total	1.417	2.182	3.826

3.2 Aberdeen Connection Demand

The City is in the process of negotiating an agreement with the City of Aberdeen (Aberdeen) to provide Aberdeen with a minimum demand of 300,000 gpd and a maximum demand of 900,000 gpd. Design of this connection is underway and the connection could be made in the very near future.

3.3 Future Demand Projections

The City Department of Planning and Zoning provided information on areas within the current City boundary that are anticipated to be developed and potential annexation areas not currently served by City water but anticipated to be in the future.

Future demand areas are shown in Figure A-3 in Appendix A and are listed below:



- **Blenheim Run:** A 9.8-acre undeveloped property, not currently within the City. The developer is proposing a mixed used project with 150 apartments with limited retail and office space.
- **Bulle Rock Redevelopment:** Multiple areas for development within the Bulle Rock area, currently undeveloped and within the City boundary. In total, approximately 764 units are estimated with a mix of single-family dwellings, townhouses, and condominiums.
- **Chapel Road Properties:** 12 developed single-family dwellings, not currently within the City.
- **Green-Ianniello-Patrone Properties:** Approximately 239 acres of undeveloped land within the current City boundary. Currently, 800 residential units are estimated with an equal mix of single-family dwellings, townhouses, and multifamily as well as limited commercial development.
- **Greenway Farms Phase 2 & 3:** Approximately 81 acres of undeveloped land within the current City boundary. Currently, 296 units of townhouses and condominiums are estimated.
- **Havre de Grace Heights:** 65 parcels, most of which are developed, outside of the City. The majority of parcels (43) are already served by City water, so estimated future demand is based on the remaining 22 parcels not currently served by City water.
- **Lampson Property:** Approximately 23 acres of undeveloped land outside of the City boundary. The property has the potential for up to 25 single-family lots.
- **Mixed Office Employment (MOE) Site:** Approximately 95 acres of undeveloped land within the City boundary. At this time, there are three separate development scenarios:
 - Scenario 1: 1,000,000 square feet of commercial space – 65% office, 20% retail, 15% institutional
 - Scenario 2: 1,000,000 square feet of commercial space – 40% office, 60% retail
 - Scenario 3: 400 residential units, 50% single-family dwellings, 50% townhomesTo be conservative, the scenario with the highest demand (Scenario 1) will be assumed in all evaluations.
- **Old Bay Lane Industrial Redevelopment:** The City would like to provide water use allocation for a potential future high water use industrial tenant to be able to move into the Old Bay Lane industrial park. A future water demand of 100,000 gpd is allocated for this purpose.
- **Old Town Infill:** Undeveloped lots within the Old Town area of the City. There is the potential for up to 75 residential units when these lots are developed.
- **Shawnee Brooke:** 1 undeveloped parcel and 27 developed single-family dwellings, outside of the City boundary. Four of the parcels are already served by City water, so estimated future demand is based on the 24 parcels not currently served by City water.
- **Susquehanna Hills:** 2 undeveloped parcels and 93 developed single-family dwellings, outside of the City boundary.
- **Tranquility Homes Redevelopment:** Approximately 22 acres of undeveloped land within the City boundary. Anticipated number of residential units vary from 75 to 150 depending on lot size and type (single-family dwelling or townhomes). To be conservative, estimated demand was calculated based on the higher 150-unit estimate.



- **US Route 40 – Section 1:** 42 parcels, most of which are developed, outside of the City boundary. Nine of the parcels are already served by City water, so estimated future demand is based on the 33 parcels not currently served by City water. Developed properties are predominantly commercial, and future development type is unknown but assumed to be commercial for this study.
- **US Route 40 – Section 2:** 19 parcels, most of which are developed, outside of the City boundary. Developed properties are predominantly commercial, and future development type is unknown but assumed to be commercial for this study.

See Appendix E for detailed calculation of the projected demand assumed for each future demand area. Calculations were based on unit demand assumptions obtained from Design Guidelines for Wastewater Facilities, from Maryland Department of the Environment Engineering and Capital Projects Program, published in 2016. A summary of the total projected demand is presented in Table 10.

Table 10 Future Demand Summary

Future Demand Area	Size / Quantity	Unit Demand (GPD/Unit)	Average Day Demand (gpd)
Residential	2,413 units	250	603,250
Commercial – Office	660,000 sf	0.09	59,400
Commercial – Retail	324,000 sf	0.18	58,320
Institutional / Medical Office Buildings	150,000 sf	0.62	93,000
Industrial	n/a	n/a	100,000
Total			913,970

Future demands were broken down into the following projection periods: 5-year, 10-year, and 20-year / buildout. The projection periods were selected for the following reasons:

- 5 year: In this time range growth and flow projections are almost certain to happen. This time period also is what is feasible for any new project from inception through construction.
- 10 year: This time range the actual growth is more speculative. While likely to happen, the probability of happening is not as great as early time frame projections. Likely an update will be necessary in 5-years before committing to the improvement.
- 20 year / Buildout: This time range is really about budgeting for the future. It allows the City to understand future expenditures.

A summary of the projected future demand is presented in Table 11.

Table 11 Future Demand Summary by Projection Period

Future Demand Area	Demand – 5 yr (gpd)	Demand – 10 yr (gpd)	Demand – 20 yr / Buildout (gpd)
Blenheim Run	40,200		
Bulle Rock Redevelopment	191,000		
Chapel Road Properties			3,000
Green-Ianniello-Patrone Properties	201,800		



Future Demand Area	Demand – 5 yr (gpd)	Demand – 10 yr (gpd)	Demand – 20 yr / Buildout (gpd)
Greenway Farms Phase 2 & 3	74,000		
Havre de Grace Heights		5,500	
Lampson Property		6,250	
MOE	187,500		
Old Bay Lane Industrial Redevelop.	100,000		
Old Town Infill	18,750		
Shawnee Brooke		6,000	
Susquehanna Hills		23,750	
Tranquility Homes Redevelopment	37,500		
US Route 40 – Section 1			11,880
US Route 40 – Section 2			6,840
Total	850,750	41,500	21,720
Grand Total (All Demand Periods)		913,970	

The total average day, maximum day, and peak hour demand, including existing and future demands, for each projection period are summarized in Table 12. Total existing and future demand within each pressure zone is summarized in

Table 13. Total future demand includes the Aberdeen connection demand (see Section 3.2).

Table 12 Total Demand Summary by Projection Period

	Demand – Current (gpd)	Demand - After Aberdeen Connection (mgd) ¹	Demand – 5 yr (mgd)	Demand – 10 yr (mgd)	Demand – 20 yr / Buildout (mgd)
Average Day	1.417	2.317	3.168	3.209	3.231
Maximum Day	2.182	3.082	4.392	4.456	4.490
Peak Hour	3.826	4.726	7.023	7.135	7.194

Note:

1. Maximum Aberdeen demand of 900,000 gpd assumed for all scenarios.

Table 13 System Demand Summary by Zone – Current & All Future Demands

Zone	ADD (mgd)	MDD (mgd)	PHD (mgd)
Zone 1	2.285	3.033	4.640
Zone 2	0.813	1.252	2.195
Zone 2D-I	0.048	0.074	0.130
Zone 2D-II	0.085	0.131	0.229
Total	3.231	4.490	7.194



4. Model Development

4.1 Model Software

A steady state hydraulic model of the City's water distribution system was developed in WaterCAD CONNECT Edition Update 2 by Bentley Systems, Inc. This program analyzes pressurized flow from storage structures and pumping systems through pipe networks and is one of the industry standards for hydraulic modeling.

4.2 Model Geometry

The cleaned up GIS database (see Section 2.2) was utilized as the basis of the hydraulic model. Pipes and valves were imported into the model utilizing the ModelBuilder tool and the model automatically created junction elements at the ends of each water pipe. Valve and junction elevations were interpolated from two-foot contour data, provided by the City, utilizing the Terrain Extractor (TRex) tool within WaterCAD.

The GIS database provided also included water hydrants, hydrant valves, and some (but not all) hydrant leader pipes. These items are not necessary for proper functioning of the hydraulic model and as such were excluded from the data brought into the model (as is typical when modeling distribution systems).

Some pipes in the GIS database were imported into the model but kept inactive in all scenarios. Pipes kept inactive include:

- 2" pipe along Alliance St, Union Ave, and Lafayette St, noted as "Disconnected" in the provided GIS data. Active 4" to 8" pipe runs parallel to the inactive pipe in this area.
- 8" pipe along Wilson St from Seneca Ave to Bloomsbury Ave, noted as "Currently shut off" in the provided GIS data. This pipe runs through the proposed Tranquility Homes Redevelopment and is assumed to stay inactive until that development is complete.
- 8" pipe extending south from Timonium Ct, noted as "Disconnected" in the provided GIS data. This pipe is a dead-end and would have no impact on the hydraulic model.
- 8" to 20" pipe within the Havre de Grace WTP and along St. John St, Warren St, the Amtrak corridor, and Route 40, terminating near Martha Lewis Blvd. This is a dedicated pipeline owned and operated by Harford County and not part of the City's distribution system.

4.3 Model Demand

Parcels identified as water users (see Section 3.1.3) were imported into the model as Customer Meter elements, located at the centroid of each parcel polygon. Each Customer Meter element was associated to the nearest junction or valve. For each demand scenario, the demand for each parcel was calculated and imported into the relevant model scenario.



4.4 Model Calibration

4.4.1 Hydrant Flow Testing

GHD conducted hydrant flow testing of the City's water distribution system on November 19, 2019. A total of fifteen (15) hydrant flow test locations were chosen to accurately illustrate the condition of different sections of the distribution system. See Figure A-4 for a map of the hydrant flow test locations.

At each location, a flow hydrant and test hydrant were selected. At the flow hydrant, pitot pressure was recorded and converted to an observed flow rate. At the test hydrant, static and residual pressures were recorded. Start and stop time for each test were recorded, and tank levels and pump status updates were provided throughout the day of testing. See Table 14 for a summary of the hydrant flow testing.

Table 14 November 19, 2019 Hydrant Flow Testing Summary

Site	Start Time	End Time	Flow Hydrant			Test Hydrant		
			Hydrant ID	Pitot Pressure (psi)	Calculated Flow (gpm)	Hydrant ID	Static Pressure (psi)	Residual Pressure (psi)
17	9:40 AM	9:42 AM	WH330	7	< 533	WH329	106	28
16	10:03 AM	10:05 AM	WH312	26	860	WH313	110	56
9	10:25 AM	10:27 AM	WH494	23	809	WH493	73	52
14	10:47 AM	10:49 AM	WH317	27	876	WH316	88	60
12	11:08 AM	11:10 AM	WH113	20	754	WH114	106	60
13	11:28 AM	11:30 AM	WH97	24	826	WH98	64	48
11	11:43 AM	11:45 AM	WH36	17	695	WH35	64	40
10	12:00 PM	12:02 PM	WH47	15	653	WH46	56	26
15	12:11 PM	12:13 PM	WH64	35	998	WH65	84	62
18	1:13 PM	1:15 PM	WH230	45	1131	WH231	126	86
19	1:32 PM	1:34 PM	WH166	3	< 533	WH167	126	122
3	1:56 PM	1:58 PM	WH464	42	1093	WH463	100	84
8	2:15 PM	2:17 PM	WH399	28	893	WH398	68	56
6	2:33 PM	2:35 PM	WH372	68	1390	WH371	130	120
4	2:50 PM	2:52 PM	WH2	27	876	WH1	60	56

4.4.2 Model Calibration Scenario

The results of the hydrant flow testing were utilized to calibrate the hydraulic model. Separate model scenarios were set up for each flow test. For each scenario, the water surface elevation in each tank and the operational setting of Graceview PS were set based on the information provided by the City. The Havre de Grace WTP PS contributes a significant amount of head to Zone 1, and the pump head can vary significantly as the pump speed is adjusted by the VFD (as discussed in Section 2.3). Therefore, for calibration purposes, a hydraulic grade line (HGL) was set at the Havre de Grace WTP PS such that the model matched, as best as possible, the observed static pressure for each hydrant flow test.



Pipe roughness, and therefore headloss, is modeled through the use of dimensionless Hazen-Williams C coefficients, with a higher C coefficient indicating a smoother pipe with lower headloss, and a lower C coefficient indicating a rougher pipe with higher headloss. Typically, Hazen-Williams C coefficients range from around 60 to 150.

Prior to calibration, the Hazen-Williams C coefficient for all pipes in the model was set to 130. The model was then calibrated by adjusting the pipe C values throughout the distribution system so that the model pressures matched, as close as possible, the observed residual pressure for each hydrant flow test. To do this, the distribution system was broken down into different geographic areas in which the C value is assumed to be consistent, and the C value of the pipes in each area were adjusted together. See Figure A-5 in Appendix A for a map of each C value area.

The stipulated model calibration goals were to obtain model pressures at the modeled test hydrants that were within +/- 20% or 10 PSI, whichever is greater, of the values measured at the field test hydrants.

4.4.3 Model Calibration Results

For the Zone 1 tests, an HGL was set at the Havre de Grace WTP PS discharge point based on the observed static pressures at the hydrant flow test. The pump head necessary to achieve the HGL was calculated and compared to the flow recorded by the City's flow meter installed within the pump station. See Table 15 for a summary and Figure 2 for a comparison of the model pump operating point to the installed pump curves. As shown, the assumed operating points are within the expected range of the pump.

Table 15 Assumed WTP HGL for Zone 1 Hydrant Flow Tests

Test Location	HdG WTP HGL (ft)	Pump TDH (ft)	Pump Flow (gpm)
17	291	281	1,096
16	328	318	1,113
9	330	320	1,151
14	335	325	1,189
13	329	319	1,184
15	335	325	1,161
18	320	310	1,116
19	328	318	1,053

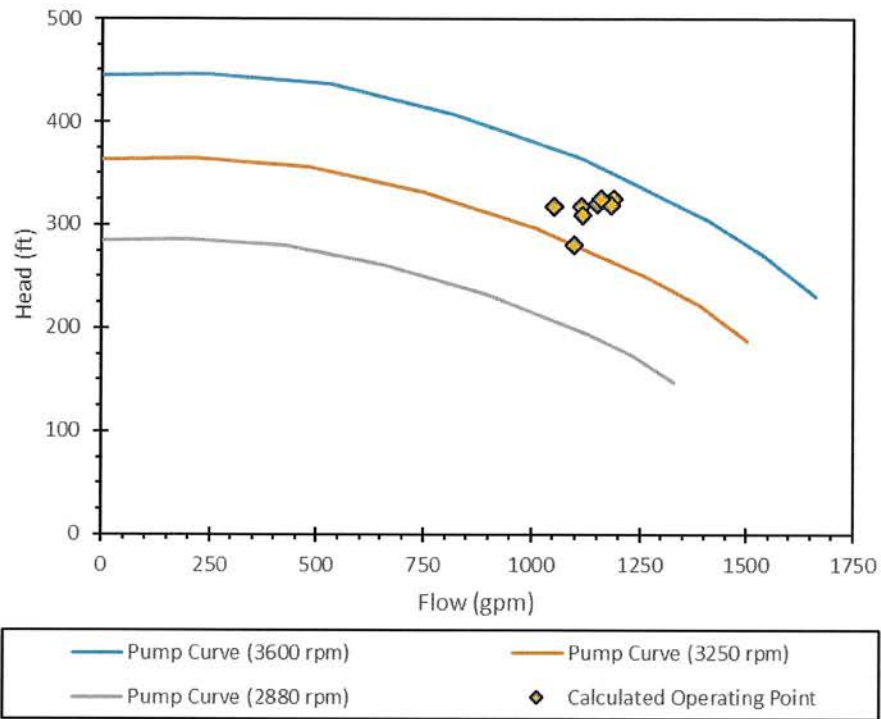


Figure 2 Havre de Grace WTP PS Assumed Operating Points Compared to Pump Curves

The Hazen-Williams C values used in the calibrated model are summarized in Table 16.

Table 16 Hazen-Williams C Coefficients from Calibration

Adjustment Group	Hazen-Williams C
Bayview Estates	63
Blenheim Ln Development	110
Bulle Rock Neighborhood (Lower)	100
Bulle Rock Neighborhood (Upper)	130
Canvasback Dr Neighborhood	130
Chapel Rd Main	110
Downtown	39
Graceview PS + Tank	130
Greenway Farm	105
Havre de Hills Neighborhood	115
Level Rd Main	120
Maryland Ave to Bayview Dr Neighborhood	78
Old Bay Ln Industrial	41
Route 40 Mains	80
Seneca Ave Neighborhood + WWTP	52
Upper Downtown	90
Village Dr to Lewis Ln Neighborhood	114



Adjustment Group	Hazen-Williams C
Wakefield Dr to Graceview Dr Neighborhood	60
Tydings Rd to Ontario St Neighborhood	110

The Hazen-Williams C values obtained from the calibration are reasonable given what is known about the distribution system. The Downtown area is the oldest part of the system and previous analysis and field observations have shown evidence of severe tuberculation in this area, so a very low C value for this area makes sense. It's likewise not surprising that the Seneca Ave Neighborhood + WWTP and Old Bay Ln Industrial areas have low C values, given the age of the system there. The newest developments, including Blenheim Ln Development, Bulle Rock Neighborhood (Upper), Canvasback Dr Neighborhood, and other areas in Zone 2, have the highest C values, as would be expected.

The results of the calibration are summarized in Table 17.

Table 17 Calibration Results

Test Location	Pressure Zone	Static Pressure (psi)			Residual Pressure (psi)		
		Observed	Simulated	% Diff.	Observed	Simulated	% Diff.
17	Zone 1	106	106	0%	28	28	0%
16	Zone 1	110	109	-1%	56	57	2%
9	Zone 1	73	73	0%	52	53	2%
14	Zone 1	88	87	-1%	59	61	3%
12	Zone 2	106	101	-5%	60	60	0%
13	Zone 1	64	64	0%	48	48	0%
11	Zone 2D-I	64	62	-3%	40	41	3%
10	Zone 2D-I	56	55	-2%	26	25	-4%
15	Zone 1	84	83	-1%	62	62	0%
18	Zone 1	127	126	-1%	87	88	1%
19	Zone 1	126	125	-1%	122	120	-2%
3	Zone 2	100	97	-3%	84	84	0%
8	Zone 2D-II	68	70	3%	56	58	4%
6	Zone 2	130	127	-2%	120	116	-3%
4	Zone 2	60	58	-3%	56	55	-2%

All pressures are within +/- 5% between observed and simulated conditions.

4.5 Model Hydraulic Settings

Historic tank levels and pressure readings at the WTP were provided in hour increments from January to October 2020. After excluding outliers, the range of tank levels and WTP hydraulic grade was determined. The model was set up utilizing the minimum observed tank levels and WTP hydraulic grade, as this provides the minimum system pressures and is thus the most conservative assumption. See Table 18 for a summary of the initial settings used in the model.



Table 18 Model Settings

Location	Tank Level Used for Model (ft)	Discharge Pressure Used for Model (psi)	Equivalent Hydraulic Grade (ft)
Havre de Grace WTP PS	n/a	107	257.6
Graceview Ground Storage Tank	16.0	n/a	257.0
Lapidum Ground Storage Tank	16.0	n/a	448.0
Bulle Rock Water Tower	23.0	n/a	453.5

For the purposes of the model, it is assumed that one of the smaller two pumps at Graceview Booster PS (Pump 1 or Pump 2) is in operation.

5. Model Analysis / Results

The calibrated distribution system model was updated to include the improvement projects already under design that will be constructed in the immediate future (as detailed in Section 2.6). The Hazen-Williams C value for the new ductile iron pipe was set to 110 in the model. All model analysis was performed on the system after completion of these projects.

5.1 Current System Analysis

5.1.1 Steady State Evaluation

The current distribution system was evaluated under current average day, maximum day, and peak hour demand conditions (as detailed in Section 3.1) at minimum tank levels and WTP hydraulic grade (as detailed in Section 4.5). This analysis gives the anticipated minimum pressure for each water customer in the system. The results of the steady state evaluation are shown in Figure F-1, Figure F-2, and Figure F-3 in Appendix F and a summary of the model results is presented in Table 19.

Table 19 Water Customer Pressures – Current System

Pressure Category	Water Customer Count		
	ADD	MDD	PHD ¹
< 30.0 psi	0	0	0
30.0 to 34.9 psi	0	0	1
35.0 to 39.9 psi	6	11	67
40.0 to 59.9 psi	912	942	968
60.0 to 79.9 psi	1,213	1,201	1,192
80.0 to 99.9 psi	2,378	2,454	2,567
≥ 100.0 psi	779	680	493
Total	5,288	5,288	5,288

Note:

1. PHD pressure is provided for informational purposes. Though there are reductions in system pressure below 35 psi at PHD, this is to be expected and would be localized events during extreme conditions for short periods of time.



Per *Recommended Standards for Water Works, 2012 Edition* (otherwise known as “10 State Standards”), the normal working pressure in a distribution system should be at least 35 psi. This criteria is maintained during average day and max day conditions.

The Havre de Grace WTP PS needs to provide adequate flow to meet maximum day demands in all pressure zones, and the Graceview Booster PS needs to provide adequate flow to meet maximum day demands in pressure zones 2, 2D-I, and 2D-II. As summarized in Table 20, the current pump station capacities are sufficient to meet system demands.

Table 20 Pump Station Capacity Analysis – Current System

Location	Current Capacity (gpm)	Feeds Zones	Required Capacity at MDD (mgd)	Required Capacity at MDD (gpm)
Havre de Grace WTP PS ¹	2,800	1, 2, 2D-I, 2D-II	2.182	1,515
Graceview Booster PS ²	500	2, 2D-I, 2D-II	0.547	380

Notes:

1. Havre de Grace WTP PS capacity is based on two of the three pumps in operation at full speed.
2. Graceview Booster PS capacity is based on the capacity of the larger Pump 3 run during high demand periods.

5.1.2 Fire Flow Evaluation

Per discussions with the City, each pressure zone must include enough storage for 2 hours of 1,000 gpm fire flow plus the maximum daily demand within the zone. In addition, the water distribution system must be able to supply 1,000 gpm of fire flow at 20 psi residual pressure during maximum day demand (and with tanks at the minimum level of their operating range).

See Table 21 for a summary of current system storage. As shown, sufficient storage is currently provided in Zone 2, but additional storage is required in Zone 1.

Table 21 Storage Analysis – Current System

	Zone 1	Zone 2 ¹
Fire Flow Volume (1,000 gpm for 2 hours) (gal)	120,000	120,000
Maximum Day Demand Volume (gal)	1,635,000	547,000
Required Storage (gal)	1,755,000	667,000
Provided Storage (gal)	1,382,000	829,000
Additional Storage Required (gal)	373,000	-162,000

Note:

1. Zone 2 demands include demands within the drop zones, Zone 2D-I and 2D-II.

A fire flow analysis was conducted using the distribution system model. The analysis determines the fire flow available given certain pressure, velocity, and flow constraints set by the engineer. The automated analysis does not determine the length of time for which the specified flow is available. It only determines the flow available and resulting pressures throughout the model. By examining the results from the analysis, it is possible to determine areas of the distribution system where adequate fire flow is unavailable.



The required minimum pressure was set to 20 psi and a velocity constraint was not used. Nodes on the suction side of pump stations, near the water storage tanks, and immediately downstream of PRVs were excluded from the analysis, since adequate pressure cannot be obtained in these vicinities, and customers and fire hydrants do not connect to the system in these areas. Only junctions connected to fire hydrants were evaluated for available fire flow; however, all junctions (except those mentioned above) were evaluated against the pressure criteria during the fire flow evaluation.

The available fire flow throughout the distribution system is shown in Figure F-4 in Appendix F and a summary is presented in Table 22.

Table 22 Available Fire Flow – Current System

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	1	0	0	0	1
100.0 to 499.9 gpm	8	0	0	0	8
500.0 to 749.9 gpm	11	4	0	0	15
750.0 to 999.9 gpm	22	9	0	2	33
≥ 1,000.0 gpm	269	12	39	185	505
Total	311	25	39	187	562

As shown, there are a number of areas with insufficient available fire flow.

5.1.3 Recommended Improvements

To meet system storage requirements, the following improvement is recommended:

- Increase storage within Zone 1 by at least 400,000 gallons. For the purposes of this evaluation, the additional storage was added to the model via an elevated storage tank in the vicinity of Old Bay Lane, as this area is hydraulically distant from Graceview Ground Storage Tank and Havre de Grace WTP PS, and hydraulically close to the proposed Aberdeen connection (see Section 5.2). However, additional evaluation, as detailed in Section 6, is required prior to moving forward with any improvements related to system storage.

To increase fire flow to 1,000 gpm at all fire hydrants in Zone 1, the following improvements are recommended:

- Maintain Graceview Tank level above 22 ft and WTP PS discharge pressure above 115 psi.
- St. James Ter – Replace 50 ft of 4" pipe and 370 ft of 6" pipe with 8" pipe.
- Conestee St – Replace 300 ft of 4" pipe with 8" pipe.
- Franklin St, between N Stokes St and N Union Ave – Replace 810 ft of 4" pipe with 8" pipe.
- Congress Ave, between S Juniata St and S Stokes St – Replace 1,000 ft of 4" pipe with 8" pipe.
- Union Ave, between Pennington Ave and Congress Ave – Replace 430 ft of 4" pipe with 8" pipe.
- Bourbon St, between Strawberry Ln and Market St – Replace 240 ft of 4" pipe with 8" pipe.



- Washington St, between fire hydrant near Fountain St and Girard St – Replace 340 ft of 4" pipe with 8" pipe.
- Revolution St, between S Juniata St and S Freedom Ln – Replace 1,240 ft of 4" pipe with 8" pipe.
- Concord Pl – Replace 550 ft of 6" pipe with 8" pipe.
- Lewis St, near intersection with S Washington St – Replace 100 ft of 4" pipe with 8" pipe.
- S Adams St, between Commerce St and Chesapeake Dr – Replace 260 ft of 2" pipe with 8" pipe.
- Commerce St, between S Adams St and Strawberry Ln – Replace 1,790 ft of 4" pipe with 8" pipe.
- Tydings Memorial Park - Replace 1,060 ft of 6" pipe with 8" pipe.
- Webb Ln – Replace 480 ft of 6" pipe with 8" pipe.
- Vandiver Ct – Replace 350 ft of 6" pipe with 8" pipe.
- Seneca Ave, north of Bloomsbury Ave – Replace 340 ft of 6" pipe with 8" pipe.
- Chesapeake Dr, between Giles St and Concove Way – Replace 2,940 ft of 6" pipe with 8" pipe.
- Havre de Grace WWTP – Replace 1,240 ft of 4" pipe and 150 ft of 6" pipe along Jerry Foster Way with 8" pipe and replace 290 ft of 2" pipe and 1,270 ft of 4" pipe at the WWTP site with 6" pipe.

To increase fire flow to 1,000 gpm at all fire hydrants in Zone 2D-I, the following improvements are recommended:

- Increase set point of the PRV feeding Zone 2D-I to at least 55 psi.
- Add a second PRV between Zone 2 and Zone 2D-I at the intersection of Goforth Dr and Tidewater Dr, replacing the isolation valve there currently.

Pressures and available fire flow in Zone 2D-II are sufficient, and no improvements are recommended.

To increase fire flow to 1,000 gpm at all fire hydrants in Zone 2, the following improvements are recommended:

- Barrett St, Mardin Rd, and Bayview Dr – Replace 2,330 ft of 6" pipe with 8" pipe.

The available fire flow throughout the distribution system after making the above recommended improvements is shown in Figure F-5 in Appendix F and a summary is presented in Table 23.

Table 23 Available Fire Flow – Current System – After Recommended Improvements

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	0	0	0	0	0
100.0 to 499.9 gpm	0	0	0	0	0



Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
500.0 to 749.9 gpm	0	0	0	0	0
750.0 to 999.9 gpm	0	0	0	0	0
≥ 1,000.0 gpm	311	25	39	187	562
Total	311	25	39	187	562

As shown, with the recommended improvements there is at least 1,000 gpm of available fire flow at all fire hydrants.

5.2 Aberdeen Connection

As mentioned in Section 3.2, the City entered into an agreement with the City of Aberdeen to provide Aberdeen with 300,000 to 900,000 gpd of potable water. Water to Aberdeen will be supplied by a new 12" water main, which will connect to the existing City of Havre de Grace distribution system near the intersection of Revolution St and Pulaski Hwy.

The impact of the Aberdeen connection on the City's water distribution system was evaluated primarily on the current system as outlined in Section 5.1, with only the improvements related to system operation. This includes maintaining Graceview Tank level above 22 ft, maintaining WTP PS discharge pressure above 115 psi, and setting the Zone 2D-I PRV to 55 psi (see Section 5.1.3). The other recommended current system improvements would require construction and will not be able to be completed prior to the Aberdeen connection coming online, anticipated within the next 6 to 12 months.

The impact of the current system after implementing all of the recommended improvements listed in Section 5.1.3 was also evaluated. This represents not only the available fire flow anticipated after the Aberdeen demand is added and the current system improvements are implemented, but also indicates the relative impact of the Aberdeen demand on the system by excluding the portions already with insufficient fire flow during current conditions.

5.2.1 Steady State Evaluation

The current distribution system with current demands and 900,000 gpd of demand at the Aberdeen connection point was evaluated under average day, maximum day, and peak hour demand conditions. The results of the steady state evaluation are shown in Figure G-1, Figure G-2, and Figure G-3 in Appendix G and a summary of the model results is presented in Table 24.

Table 24 Water Customer Pressures – Current System with Aberdeen Connection

Pressure Category	Water Customer Count		
	ADD	MDD	PHD ¹
< 30.0 psi	0	0	0
30.0 to 34.9 psi	0	0	18
35.0 to 39.9 psi	0	9	80
40.0 to 59.9 psi	849	897	1,039
60.0 to 79.9 psi	1,198	1,172	1,125



Pressure Category	Water Customer Count		
	ADD	MDD	PHD ¹
80.0 to 99.9 psi	2,030	2,282	2,436
≥ 100.0 psi	1,211	928	590
Total	5,288	5,288	5,288

Note:

1. PHD pressure is provided for informational purposes. Though there are reductions in system pressure below 35 psi at PHD, this is to be expected and would be localized events during extreme conditions for short periods of time.

The addition of the Aberdeen demand results in a slight pressure drop for some customers, but pressures for all water customers remains above 35 psi during ADD and MDD conditions.

The results of the steady state evaluation including the Aberdeen demand, on the current system with the improvements listed in Section 5.1.3, is presented in Table 25.

Table 25 Water Customer Pressures – Current System (Improved) with Aberdeen Connection

Pressure Category	Water Customer Count		
	ADD	MDD	PHD ¹
< 30.0 psi	0	0	0
30.0 to 34.9 psi	0	0	14
35.0 to 39.9 psi	0	5	64
40.0 to 59.9 psi	839	888	1,025
60.0 to 79.9 psi	1,206	1,181	1,099
80.0 to 99.9 psi	1,999	2,251	2,475
≥ 100.0 psi	1,244	963	611
Total	5,288	5,288	5,288

Note:

1. PHD pressure is provided for informational purposes. Though there are reductions in system pressure below 35 psi at PHD, this is to be expected and would be localized events during extreme conditions for short periods of time.

As shown, pressures at existing water customers remain above 35 psi during ADD and MDD conditions.

As summarized in Table 26, the current Havre de Grace WTP PS is sufficient to meet current maximum day demand with the Aberdeen connection demand.

Table 26 Pump Station Capacity Analysis – with Aberdeen Connection

Location	Current Capacity (gpm)	Feeds Zones	Required Capacity at MDD (mgd)	Required Capacity at MDD (gpm)
Havre de Grace WTP PS ¹	2,800	1, 2, 2D-I, 2D-II	3.082	2,140



Location	Current Capacity (gpm)	Feeds Zones	Required Capacity at MDD (mgd)	Required Capacity at MDD (gpm)
Graceview Booster PS ²	500	2, 2D-I, 2D-II	0.547	380

Notes:

1. Havre de Grace WTP PS capacity is based on two of the three pumps in operation at full speed.
2. Graceview Booster PS capacity is based on the capacity of the larger Pump 3 run during high demand periods.

5.2.2 Fire Flow Evaluation

Storage for the Aberdeen connection demand does not need to be provided by the City; therefore, the storage evaluation does not change from the current system analysis (see Section 5.1.2).

The available fire flow throughout the current distribution system during maximum day demand with the Aberdeen connection demand is shown in Figure G-4 in Appendix G and a summary is presented in Table 27.

Table 27 Available Fire Flow – Current System with Aberdeen Connection

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	1	0	0	0	1
100.0 to 499.9 gpm	8	0	0	0	8
500.0 to 749.9 gpm	12	3	0	0	15
750.0 to 999.9 gpm	74	8	0	2	84
≥ 1,000.0 gpm	216	14	39	185	454
Total	311	25	39	187	562

The hydrants with significant fire flow deficiencies (available fire flow of less than 500 gpm) were not impacted significantly by the addition of the Aberdeen demand. The Aberdeen demand does result in one additional hydrant having fire flow slightly less than 750 gpm and 53 additional hydrants having fire flow less than 1,000 gpm.

The available fire flow throughout the current distribution system during maximum day demand with the Aberdeen connection demand, after implementing the improvements listed in Section 5.1.3, is shown in Figure G-5 in Appendix G and a summary is presented in Table 28.

Table 28 Available Fire Flow – Current System (Improved) with Aberdeen Connection

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	0	0	0	0	0
100.0 to 499.9 gpm	0	0	0	0	0
500.0 to 749.9 gpm	0	0	0	0	0
750.0 to 999.9 gpm	0	0	0	0	0
≥ 1,000.0 gpm	311	25	39	187	562
Total	311	25	39	187	562



As shown, with the current recommended improvements (including providing storage in the vicinity of Old Bay Lane) and the Aberdeen demand, there is at least 1,000 gpm of available fire flow at all fire hydrants.

5.2.3 Recommended Improvements

Although addition of the Aberdeen Connection demand decreases available fire flow within Zone 1, available fire flow remains above 745 gpm for all hydrants not already below 1,000 gpm, and customer pressures remain above 35 psi during MDD. Therefore, while not ideal, there is not anticipated to be significant impacts to customers if no improvements are made prior to supplying water to Aberdeen. Implementing the improvements recommended in Section 5.1.3 (including providing storage in the vicinity of Old Bay Lane) is shown by the model to increase available fire flow for all hydrants to at least 1,000 gpm.

5.3 Future System Analysis

As mentioned in Section 3.3, there are a number of areas where additional demand is projected over the next 20 years. The distribution system was evaluated with all future demands to determine what improvements to the existing system would be required. The evaluation only looked at the existing system and does not include new piping or pump stations to supply water to future demand areas.

For the purposes of the future evaluation, it is assumed that all recommended improvements from the current system analysis (see Section 5.1.3) have been implemented.

5.3.1 Steady State Evaluation

The current distribution system with all projected future demands was evaluated under average day, maximum day, and peak hour demand conditions. The results of the steady state evaluation are shown in Figure H-1, Figure H-2, and Figure H-3 in Appendix H and a summary of the model results is presented in Table 29.

Table 29 Water Customer Pressures – Future Buildout Demands

Pressure Category	Water Customer Count		
	ADD	MDD	PHD ¹
< 30.0 psi	0	0	0
30.0 to 34.9 psi	0	0	0
35.0 to 39.9 psi	0	0	2
40.0 to 59.9 psi	798	824	898
60.0 to 79.9 psi	1,236	1,216	1,179
80.0 to 99.9 psi	1,689	1,975	2,334
≥ 100.0 psi	1,565	1,273	875
Total	5,288	5,288	5,288

Note:

1. PHD pressure is provided for informational purposes. Though there are reductions in system pressure below 35 psi at PHD, this is to be expected and would be localized events during extreme conditions for short periods of time.



As shown, pressures at existing water customers remain above 35 psi during ADD and MDD conditions with the addition of all projected future demands.

As summarized in Table 30, with the additional projected future demands, the capacity of the Havre de Grace WTP PS and the Graceview Booster PS must be increased to meet demand.

Table 30 Pump Station Capacity Analysis – Future Buildout Demands

Location	Current Capacity (gpm)	Feeds Zones	Required Capacity at MDD (mgd)	Required Capacity at MDD (gpm)
Havre de Grace WTP PS ¹	2,800	1, 2, 2D-I, 2D-II	4.490	3,118
Graceview Booster PS ²	500	2, 2D-I, 2D-II	1.457	1,012

Notes:

1. Havre de Grace WTP PS capacity is based on two of the three pumps in operation at full speed.
2. Graceview Booster PS capacity is based on the capacity of the larger Pump 3 run during high demand periods.

5.3.2 Fire Flow Evaluation

See Table 31 for a summary of system storage with future demands. As shown, with the additional projected future demands, additional storage must be provided in Zone 1 and Zone 2.

Table 31 Storage Analysis – Future Buildout Demands

	Zone 1	Zone 2 ¹
Fire Flow Volume (1,000 gpm for 2 hours) (gal)	120,000	120,000
Maximum Day Demand Volume (gal)	2,133,000	1,457,000
Required Storage (gal)	2,253,000	1,577,000
Provided Storage (gal)	1,382,000	829,000
Recommended Additional Storage (Current Improvements) (gal) ²	400,000	-
Additional Storage Required (Future) (gal)	471,000	748,000

Notes:

1. Zone 2 demands include demands within the drop zones, Zone 2D-I and 2D-II.
2. See Section 5.1.3 for improvements recommended on the current system.

The available fire flow throughout the distribution system during future maximum day demand is shown in Figure H-4 in Appendix H and a summary is presented in Table 32.

Table 32 Available Fire Flow – Future Buildout Demands

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	0	0	0	0	0
100.0 to 499.9 gpm	0	0	0	0	0
500.0 to 749.9 gpm	0	0	0	0	0
750.0 to 999.9 gpm	0	0	0	0	0
≥ 1,000.0 gpm	311	25	39	187	562
Total	311	25	39	187	562



As shown, with the addition of the future demands, there is still at least 1,000 gpm of available fire flow at all fire hydrants

5.3.3 Recommended Improvements

The following system improvements are recommended to meet projected future demands:

- Increase capacity of the Havre de Grace WTP PS to at least 3,120 gpm. This can be achieved if the capacity of all finished water pumps is increased to 1,560 gpm at full speed.
- Increase capacity of the Graceview Booster PS to at least 1,020 gpm. This can be achieved either by having two pumps, each rated for 1,020 gpm, or by having one pump with a capacity of 1,020 gpm and two pumps each with a capacity of 510 gpm.
- Increase storage within Zone 1 by an additional 500,000 gallons (in addition to the 400,000 recommended in Section 5.1.3). For the purposes of this evaluation, the additional storage was added to the model via an elevated storage tank in the vicinity of Old Bay Lane, as the majority of future demands within Zone 1 are in this area. However, additional evaluation, as detailed in Section 6, is required prior to moving forward with any improvements related to system storage.
- Increase storage within Zone 2 by 750,000 gallons. Given the high elevation of Green-Ianniello-Patrone Properties, MOE, and Susquehanna Hills, a new pump station and pressure zone will need to be included with the development of these properties. It is recommended that the additional storage be provided by a new 750,000 gallon elevated storage tank in the new, higher pressure zone. However, additional evaluation, as detailed in Section 6, is required prior to moving forward with any improvements related to system storage.

The available fire flow throughout the distribution system after making the above recommended improvements is shown in Figure H-5 in Appendix H and a summary is presented in Table 33.

Table 33 Available Fire Flow – Future Buildout Demands – After Recommended Improvements

Fire Flow Category	Junction Count				
	Zone 1	Zone 2D-I	Zone 2D-II	Zone 2	Total
< 100.0 gpm	0	0	0	0	0
100.0 to 499.9 gpm	0	0	0	0	0
500.0 to 749.9 gpm	0	0	0	0	0
750.0 to 999.9 gpm	0	0	0	0	0
≥ 1,000.0 gpm	311	25	39	187	562
Total	311	25	39	187	562

As shown, with the recommended improvements is the model indicates at least 1,000 gpm of available fire flow at all fire hydrants.

5.3.3.1 Recommended Improvement Timing

The majority of future demand within Zone 1 is due to Greenway Farms Phase 2 & 3 and Old Bay Lane Industrial Redevelopment. Zone 1 improvements should be completed prior to the addition of these future demands, projected within the next five years. Systemwide, 0.950 MGD of additional



demand can be added before improvements are required at the Havre de Grace WTP PS. Assuming 250 GPD per EDU, this equates to 3,800 EDUs

The majority of future demand within Zone 2 is due to Green-Ianniello-Patrone Properties and MOE. Zone 2 improvements should be completed prior to the addition of these future demands, projected within the next five years. Throughout Zone 2, Zone 2D-I, and Zone 2D-II, a total of 0.173 MGD of additional demand can be added before improvements are required at the Graceview Booster PS, and a total of 0.162 MGD of additional demand can be added before additional Zone 2 storage is required. Assuming 250 GPD per EDU, this equates to 692 and 648 EDUs respectively.

6. Additional Evaluation

Additional evaluation of the system is recommended prior to making any of the significant modifications to pump stations and system storage outlined above. It is recommended that the additional evaluation include extended period simulation (EPS) of the system to model draw and fill cycles of the tanks and see how the tanks hydraulically interact with each other during typical system operation. An EPS evaluation will also allow for investigation of the impact of the improvements on water age and water quality. The developed and calibrated steady state model detailed in the report would serve as the basis for an EPS evaluation, and the system geometry, pipe characteristics, and demand distribution would not need to be updated. To perform an EPS evaluation, the model would need to be updated with diurnal curves for all demands and control logic to determine when pumps turn on and off (or when VFDs adjust speed). Additional calibration would be required to match historic tank behavior.

Condition assessments on all three of the City's existing storage tanks have indicated that these tanks need to be rehabilitated or replaced in the near future due to age and condition. A detailed storage evaluation utilizing the EPS model is recommended to determine an approach to provide the required storage in each pressure zone that is hydraulically optimal, cost effective, and reliable. Possible alternatives to be investigated include rehabilitating or replacing the existing tanks in-kind and adding additional storage elsewhere, replacing the existing tanks with larger tanks to cover all required storage, or some combination thereof. Such an evaluation would also include a more detailed siting study, taking into account current land ownership, potential for City to purchase new land, etc.

7. Opinion of Probable Construction Costs

The opinion of probable construction cost for the recommended hydraulic improvements is presented in Table 34. Current system improvements, as detailed in Sections 5.1.3, consist of pipe improvements to improve fire flow within the existing system with current demands, and cost to add 400,000 gal of additional storage to Zone 1. Future system improvements, as detailed in Section 5.3.3, consist of pump station improvements and increased system storage to meet all future demands. Costs presented are just for the hydraulic improvements identified in this report and do not include rehabilitation / replacement of existing components due to age or condition. A detailed cost estimate is provided in Appendix I.



Table 34 Opinion of Probable Cost

	Current System Improvements ¹	Future System Improvements
Construction Cost	\$6,436,000	\$7,628,000
Contingency (30%)	\$1,931,000	\$2,289,000
Probable Construction Cost	\$8,367,000	\$9,917,000
Admin., Eng., and Legal (30%)	\$2,511,000	\$2,976,000
Probable Project Cost	\$10,878,000	\$12,893,000

Note:

1. Costs are just for hydraulic improvements recommended in this report and do not include rehabilitation / replacement of existing components due to age or condition.

The above cost estimate is approximate and meant for planning-level purposes only. Although calculated as combined projects for each time period, it is likely that improvements would be broken up into multiple, smaller projects. The cost to provide additional storage is based on assumptions regarding tank sizes, but as discussed in Section 6, the storage requirements are subject to further evaluation (for example, two smaller tanks could be provided in lieu of one larger tank, or one larger tank could be provided to meet current and future storage requirements for a zone).

As discussed in Section 6, it is recommended that the hydraulic improvements recommended in this report be coordinated with other anticipated system improvements to ensure the most cost-effective solution is achieved.

8. Summary and Conclusion

Based on historic demands and a hydraulic model calibrated from the hydrant flow testing performed in the field, there are a number of areas of the existing system where sufficient fire flow is not currently available. These areas should be investigated further and system improvements implemented as soon as possible. Additional storage is required within Zone 1 to provide adequate storage based on current system demands and required fire flow volume.

With the addition of the Aberdeen Connection demand of 900,000 gpd, available fire flow is reduced within portions of Zone 1. However, available fire flow remains above 745 gpm for all hydrants not already below 1,000 gpm, and customer pressures remain above 35 psi during MDD. The model indicates that providing additional storage in the vicinity of Old Bay Ln (in addition to recommended pipe improvements to the current system) would improve available fire flow to 1,000 gpm throughout the system after connection of the Aberdeen demand. Additional evaluation of the system, including EPS modeling, is recommended prior to design of any additional system storage to determine the impacts on the distribution system.

To supply the projected future demands, the capacity of both the Havre de Grace WTP PS and Graceview Booster PS will need to be increased. Additional storage will also be required in both Zone 1 and Zone 2. These improvements are anticipated to be required within the next 5 years, based on the projected time frame of the future demands. Additional evaluation of the system, including EPS modeling, is recommended prior to design of these improvements to determine the impacts on the distribution system.



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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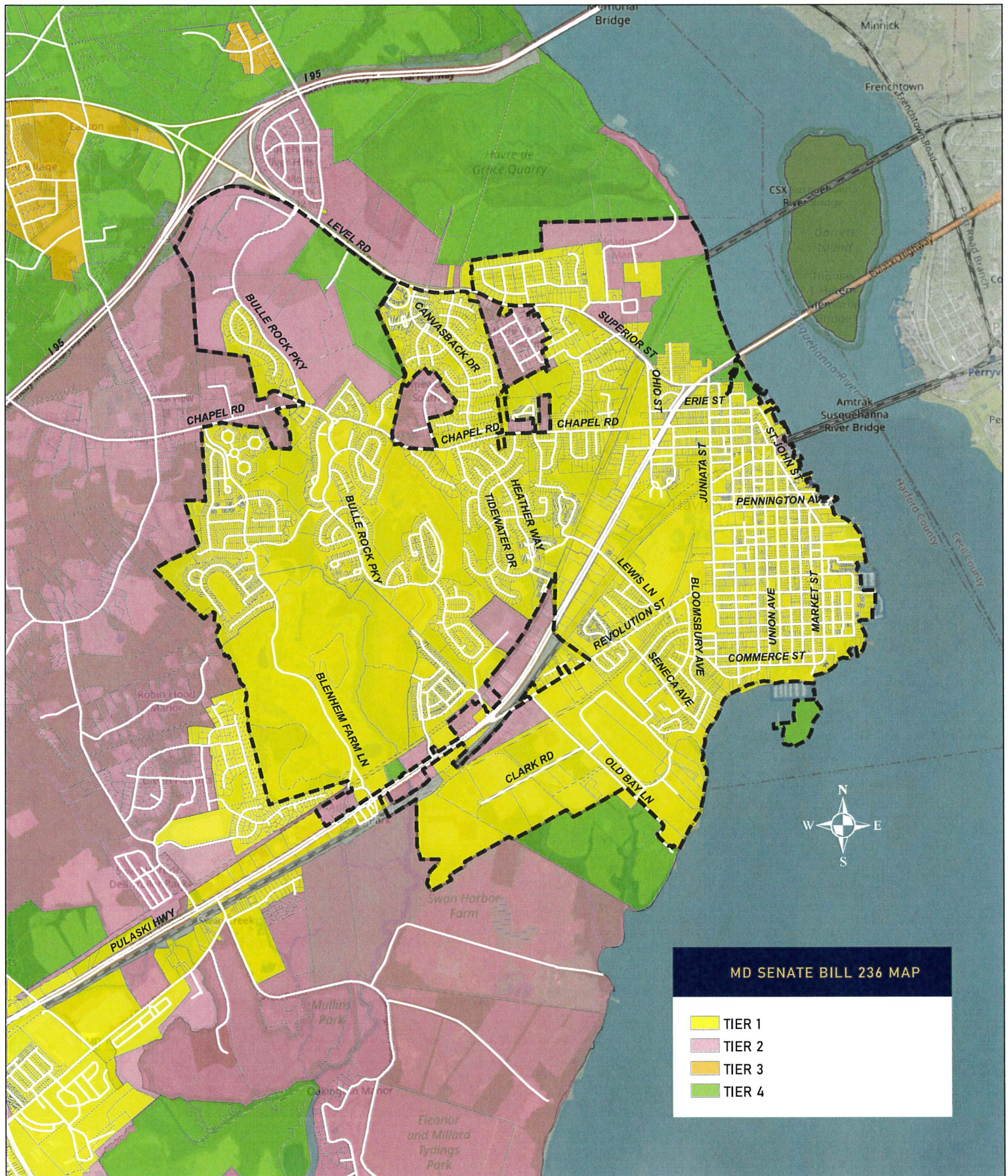
This following maps relate to Senate Bill 236 from the Sustainable Growth and Agricultural Preservation Act (2012).

This information is placed in the Supporting Resources as it relates to the Wastewater Collection and Treatment section of the Water Resources Element. It depicts the adopted designations of the tier system for wastewater treatment as established within Harford County and its municipalities in 2012.

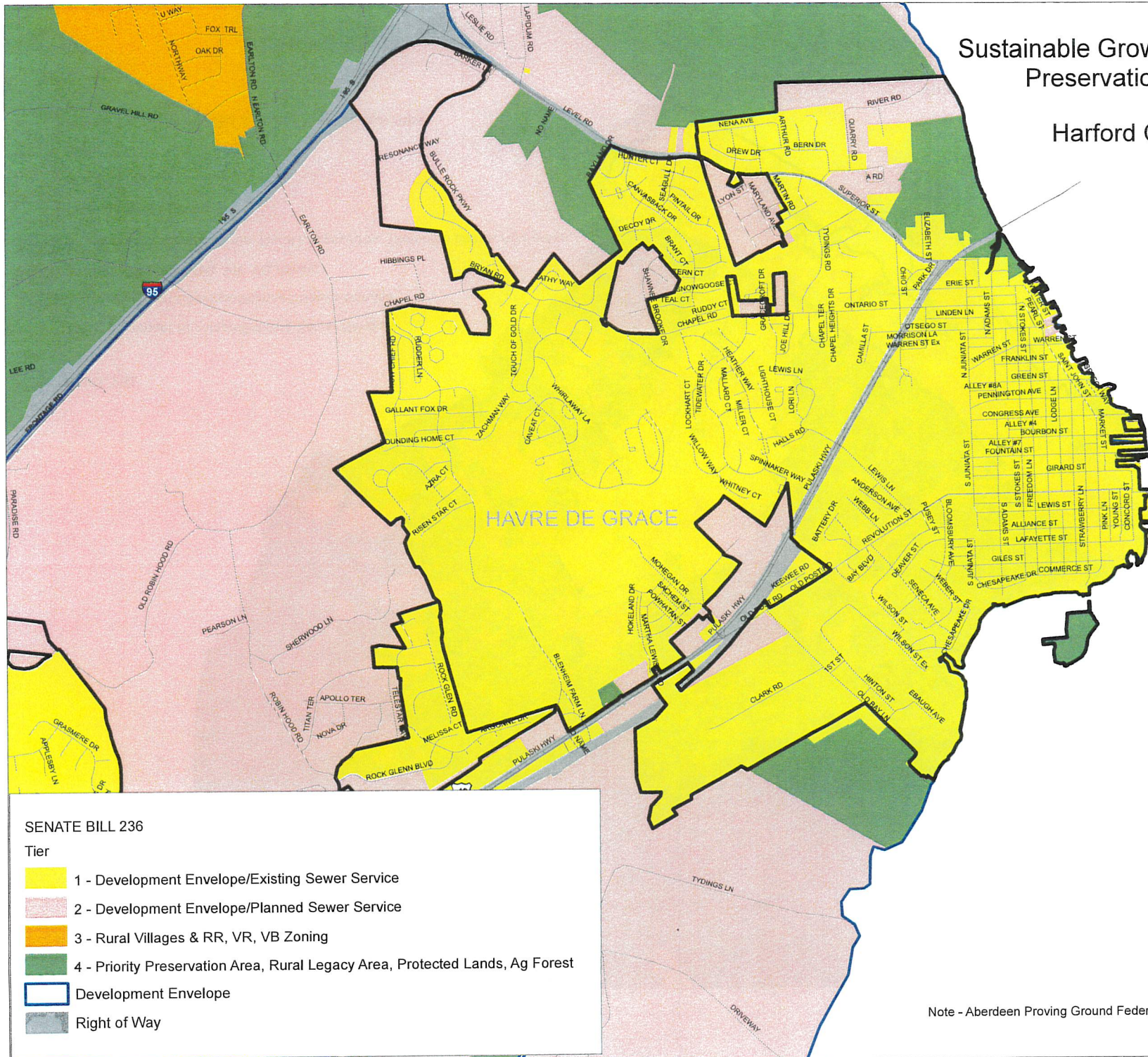


ENVISION HdG

SUSTAINABLE GROWTH AND AGRICULTURAL
PRESERVATION ACT (2012)



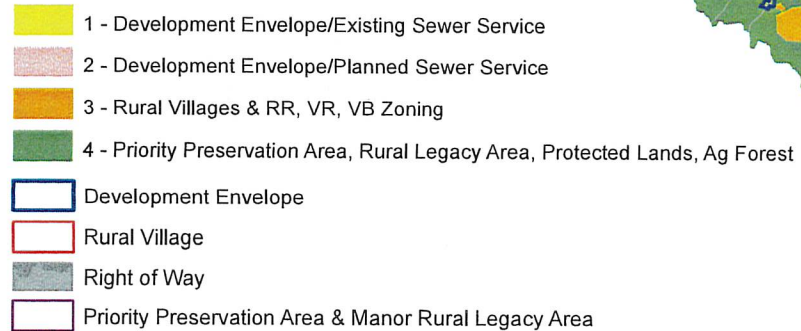
Harford County, MD



Note - Aberdeen Proving Ground Federal Army Installation is designated as Tier 1.

DECEMBER 2012

Harford County, MD



DECEMBER 2012



City of Havre de Grace

711 PENNINGTON AVENUE, HAVRE DE GRACE, MARYLAND 21078
WWW.HAVREDEGRACEMD.COM

410-939-1800

October 17, 2012

Harford County Government
C. Pete Gutwald, Director
Department of Planning & Zoning
220 South Main Street
Bel Air, MD 21014

RE: Sustainable Growth and Agriculture Preservation Act of 2012

Dear Director Gutwald:

The City of Havre de Grace concurs with Harford County's Tier Map depiction for our jurisdiction as required by the Sustainable Growth and Agriculture Preservation Act of 2012. Thank you for the opportunity to jointly present our Tier requirements within the scope of the County's broader Tier designations.

Sincerely,

W. Neal Mills, Director
Department of Planning

cc: Wayne H. Dougherty, Mayor
Carol Mathis, Director of Administration

2012 OCT 19 P 1:51



Maryland Department of Planning

Sustainable _____ Attainable

May 10, 2013

Wayne H. Dougherty, Mayor
City of Havre de Grace
711 Pennington Av.
Havre de Grace, MD 21078

Dear Mayor Dougherty:

RE: MDP's review of adopted tier map; No comments

Thank you for sending the Department of Planning your letter (dated October 17, 2012). The letter indicates that the City of Havre de Grace adopted Harford County's tier map. Even though this action was based on the Harford County tier map prior to adoption, our review of the Harford County adopted tier map shows no changes in tier designations for the City of Havre de Grace and its growth areas. This action establishes growth tiers under Title 1, Subtitle 5 of the Land Use Article ("LU") of the Annotated Code of Maryland for the City of Havre de Grace.

LU §1-505 allows the Department to comment on growth tiers adopted by local jurisdictions. The Maryland Department of Planning is pleased to advise you that the map adopted by the City of Havre de Grace satisfies the statutory requirements of LU §1-508 for designation of growth tiers. The Department therefore has no comments on the adopted map.

Please be advised that the law requires that the growth tiers are to be incorporated into the City's comprehensive plan or an element of the plan when the City conducts its six year review of the plan. If the growth tiers are not incorporated into the comprehensive plan or an element of the plan during the 6-year review, the law indicates that the growth tiers may not be considered as adopted and the restrictions on major subdivisions outside sewer areas shall apply.

Although MDP has no comments on the City's adopted tier map, we would like to reiterate our previous stance on the City's Municipal Growth Element (MDP's September 7, 2010 comment letter on the City's Municipal Growth and Water Resources Elements). The Department expressed concern that the amount of land in the City's designated growth areas is too large compared to MDP's population projections for the City. Continued focus on infill and redevelopment, infrastructure maintenance and upgrade, neighborhood and downtown revitalization, and historic preservation, will ensure that the City can accommodate future population growth within its current municipal boundaries.

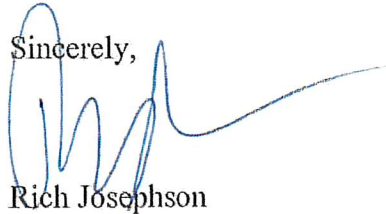
Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor

Richard Eberhart Hall, AICP, Secretary
Matthew J. Power, Deputy Secretary

Mayor Wayne H. Dougherty
May 10, 2013
Page 2

Should you have any questions, please don't hesitate to contact us.

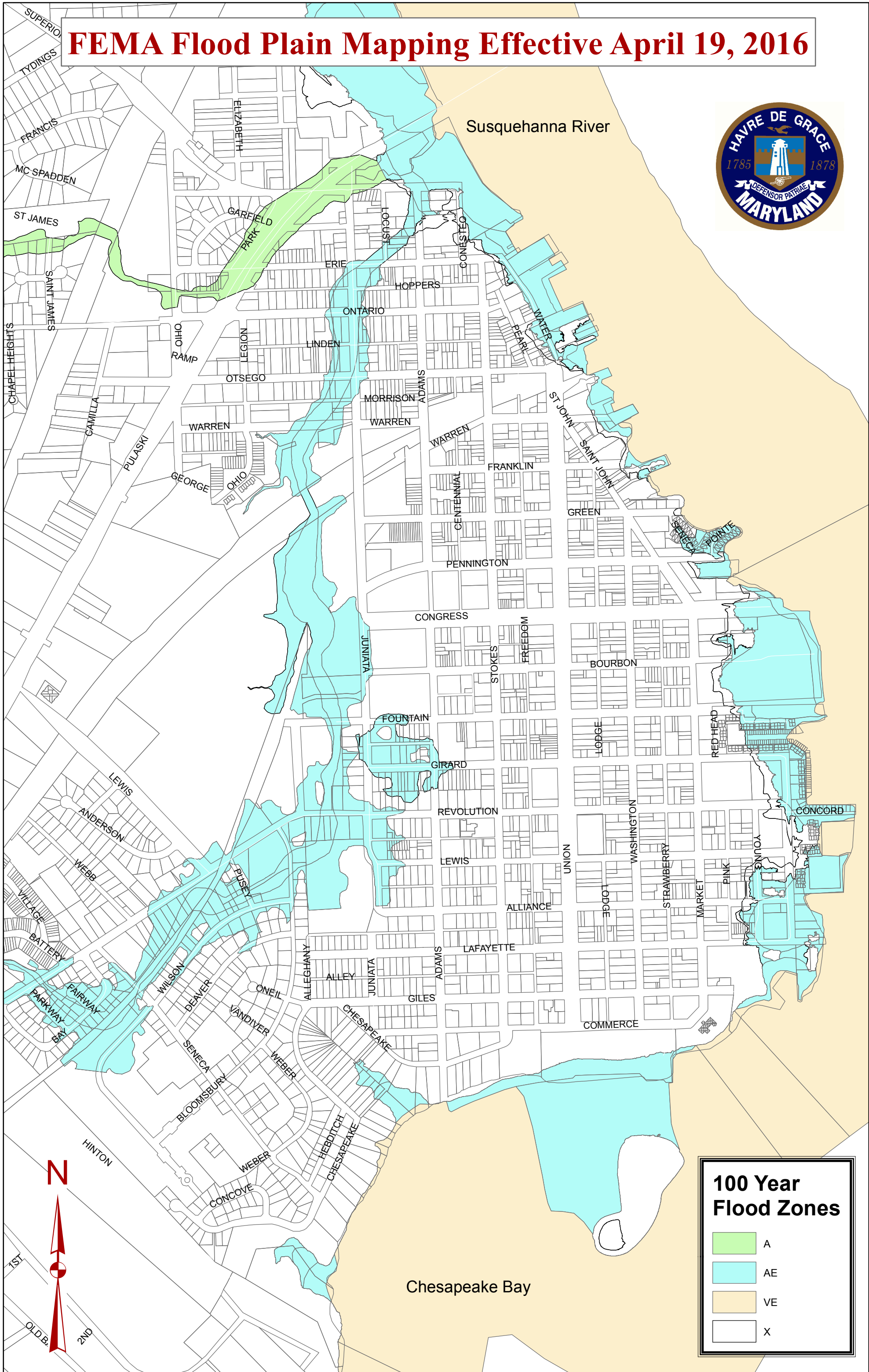
Sincerely,

A handwritten signature in blue ink, appearing to read 'Rich Josephson', with a long, sweeping horizontal line extending to the right.

Rich Josephson
Director of Planning Services

cc: Neal Mills, Director, Department of Planning and Zoning, City of Havre de Grace
Carol Mathis, Director of Administration, City of Havre de Grace
C. Pete Gutwald, Director, Harford County Department of Planning and Zoning
Steve Allan, Central Maryland Regional Planner, MDP
Jay Sakai, Director, Water Management Administration, MDE
Jason Dubow, Director, Environmental Planning Division, MDP

FEMA Flood Plain Mapping Effective April 19, 2016



100 Year Flood Zones

- A
- AE
- VE
- X

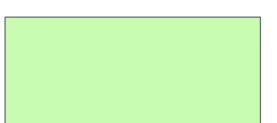
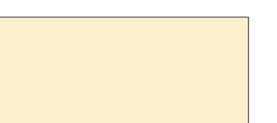


FEMA Flood Plain Mapping Effective April 19, 2016

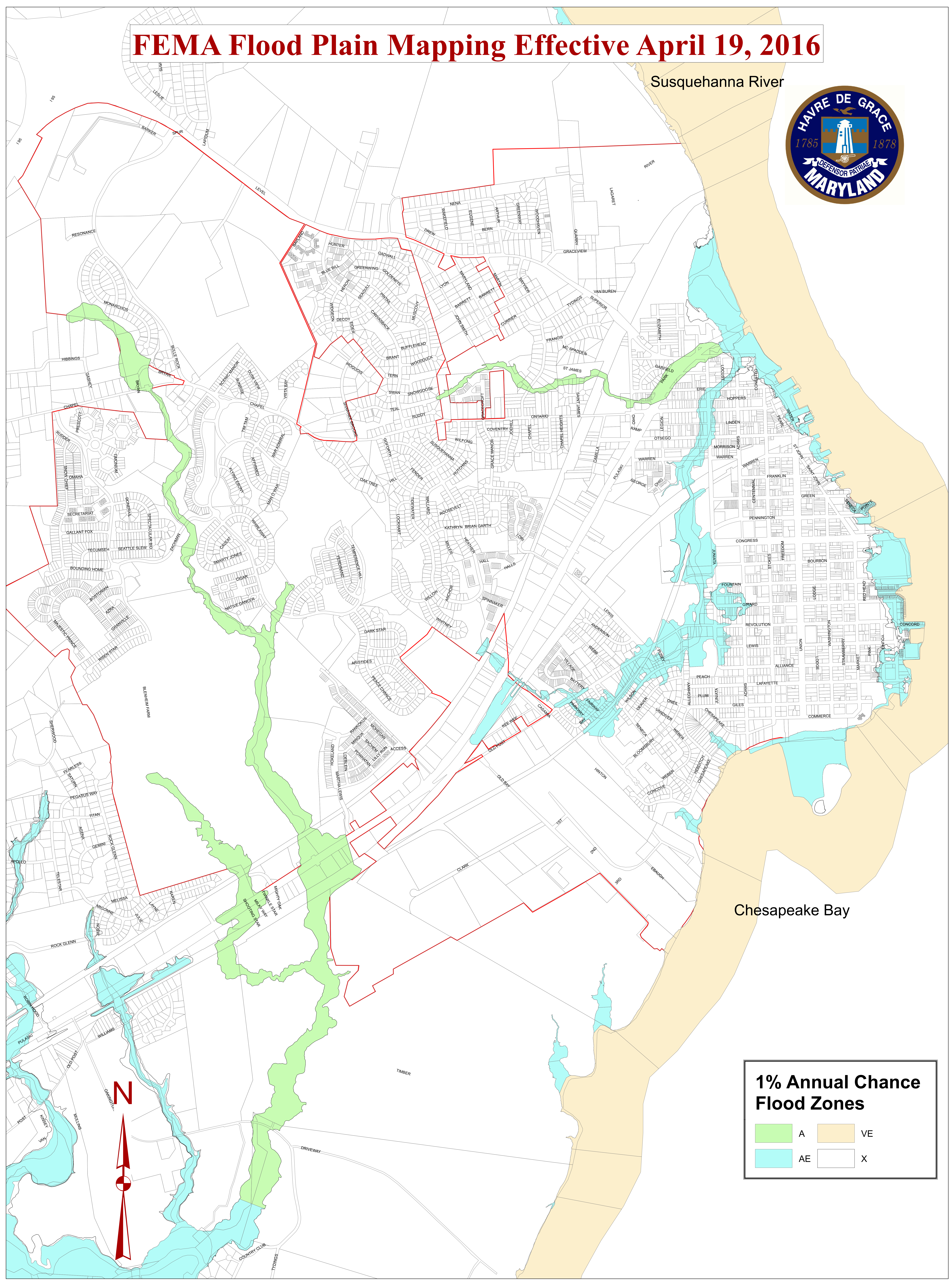
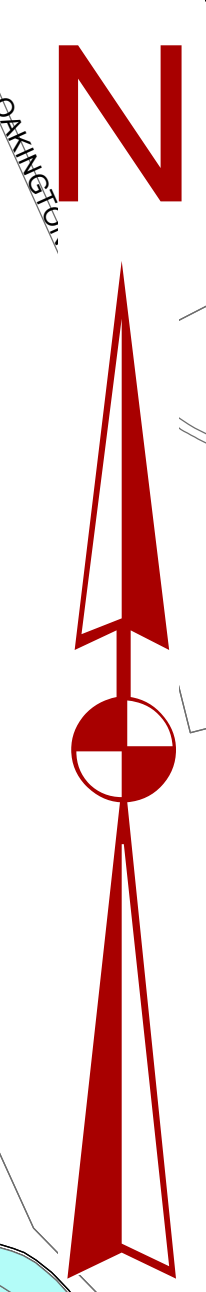
Susquehanna River



Chesapeake Bay

**1% Annual Chance
Flood Zones**

	A		VE
	AE		X





- Approved Critical Area 1000ft. Boundary
- Approved Critical Area Designations
- Intensely Developed Areas (IDA)
- Resource Conservation Areas (RCA)
- Shoreline
- Wetlands
- Havre de Grace Town Boundary

IMPORTANT INFORMATION ABOUT THIS MAP:

This final approved map represent the official Regulatory Critical Area map that is also represented in the State-wide Base map for the Town of Havre de Grace. The shoreline and wetland boundaries represented on this map may not be construed in any way, any statutory provision under Title 16 of the Environment Article, any regulatory provision under a nominal flying attitude of 4800 AMT, with a minimum 30% side-lap to achieve a 6' ortho-product. The imagery was processed to meet or exceed NMA standards for 1" = 100' map products. Supplemental data and imagery used to create the Critical Area Boundary were also produced at a scale of 1:1200 or 1" = 100'.

Furthermore, any mapped shoreline and landward boundary of tidal wetlands represented on this map may not be used to delineate the minimum 100-foot buffer or expanded buffer delineations. The aerial photography is from 2016 Maryland State Highway Administration contract. All imagery for the project was captured as under Title 16 of the Environment Article, any regulatory provision under a nominal flying attitude of 4800 AMT, with a minimum 30% side-lap to achieve a 6' ortho-product. The imagery was processed to meet or exceed NMA standards for 1" = 100' map products. Supplemental data and imagery used to create the Critical Area Boundary were also produced at a scale of 1:1200 or 1" = 100'.

Critical Area Map: Havre de Grace, Maryland

Lawrence J. Hogan, Jr.

Governor

Boyd K. Rutherford

Deputy Governor

John C. Wobensmith

Secretary

Department of Natural Resources

300 Taylor Ave.

Annapolis, MD 21403

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Critical Area Commission

1804 West Street, Suite 100 Annapolis, MD 21403

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www.dnr.state.md.us/criticalarea/

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Scale

0 200 400 Feet

Map Created: January, 2022