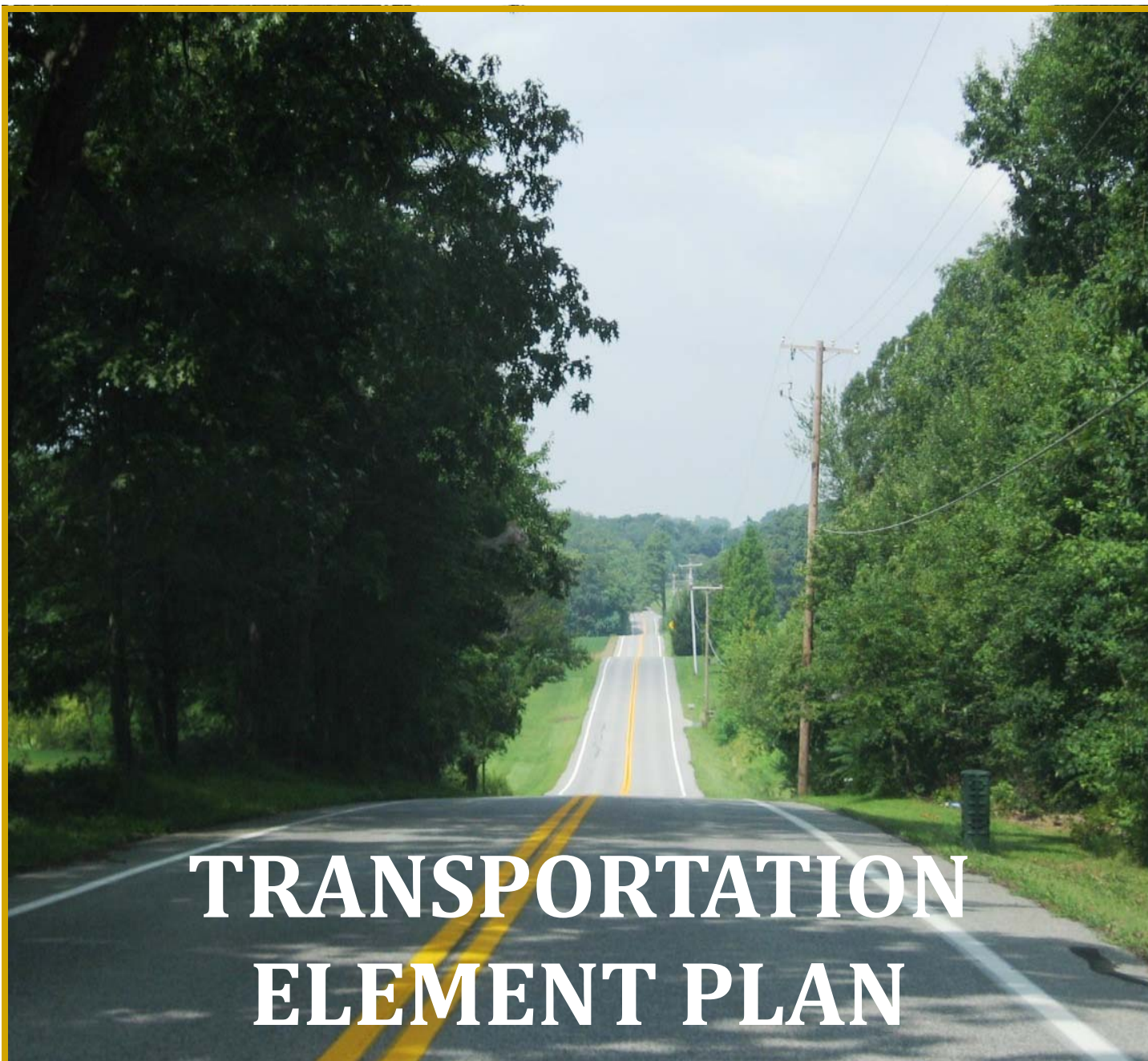




Harford County



TRANSPORTATION ELEMENT PLAN

2010

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ACRONYMS

ADT – Average Daily Traffic
AMTRAK – American Trail-National Railroad Passenger Corporation
APF – Adequate Public Facilities
APG – Aberdeen Proving Ground
BLOC – Bicycle Level of Comfort
BLOS – Bicycle Level of Service
BMC – Baltimore Metropolitan Council
BRAC – Base Realignment and Closure
BRTB – Baltimore Regional Transportation Board
BWI – Baltimore Washington International Thurgood Marshall Airport
CMAQ – Congestion Management Air Quality
CSSC – Chesapeake Science and Security Corridor
D.C. – District of Columbia
ECG – East Coast Greenway
FHWA – Federal Highway Administration
GIS – Geographic Information System
HECC– Higher Education Conference Center
HCM – Highway Capacity Manual
HT – Harford Transit
ISTEA – Intermodal Surface Transportation Efficiency Act
ITS – Intelligent Transportation Systems
LDS – Latent Demand Service
LEED – Leadership in Energy and Environmental Design
LOS – Level of Service
LSHG – Lower Susquehanna Heritage Greenway
MARC – Maryland Rail Commuter
MdTA – Maryland Transportation Authority
MDOT – Maryland Department of Transportation
MPO – Metropolitan Planning Organization
MTA – Maryland Transit Administration
MTP – Maryland Transportation Plan
NO_x – Oxides of Nitrogen
PFA – Priority Funding Area
SAFETEA-LU – Safe Accountable Flexible Efficient Transportation Equity Act
 - a Legacy for Users
SOV – Single Occupant Vehicle
TDM – Transportation Demand Management
TEA-21 – Transportation Equity Act for the 21st Century
TIA – Traffic Impact Analysis
TMA – Transportation Management Association
VMT – Vehicle Miles Traveled

Section I

INTRODUCTION

INTRODUCTION TO THE TRANSPORTATION ELEMENT PLAN

An effective transportation network provides safe, efficient, accessible, and environmentally sound transportation options that connect residents and workers to their jobs, schools, recreation, shopping and other community activities. Harford County's transportation network serves over 241,000 residents and more than 5,200 businesses including Aberdeen Proving Ground, the County's largest employer. The County's transportation needs are diverse - serving the designated growth area along the I-95 and Maryland Route 24 corridors, the rural area and village centers. Interstate 95 is also a major component of Harford County's transportation system, and the future expansion of the roadway will have a major influence on Harford County's overall transportation network.

The transportation issues facing Harford County range from local needs to regional priorities. The improvements and programs proposed to address these needs must be developed in the context of supporting smart and sustainable growth and the "Visions" identified in SB273 – Smart, Green, and Growing – Local Government Planning, which was adopted by the Maryland General Assembly in 2009.

Harford County's transportation system has evolved from an agrarian based network of farm to market roadways to over 1,400 miles of roads, of which, over 1,045 are County maintained. There are over 2.3 million vehicle miles of travel throughout the County on an average yearly basis.

Building on the Transportation Element Plans of 1994 and 2000, the 2010 Transportation Element Plan describes how the County intends to address its changing transportation needs while addressing Federal and State legislative requirements. It establishes policies and strategies designed to meet existing and future travel demands. These are based on projected population and employment growth through 2035 and includes the Base Realignment and Closure (BRAC). The Plan will also ensure that land use and transportation planning are integrated.

The primary objective of this Plan is not to merely move motor vehicles. Rather it is to provide for the safe, efficient, and fiscally responsible movement of people and goods through a variety of travel choices that support environmental sustainability. The County realizes that increasing road capacity alone will not fully address its transportation needs. To meet the County's travel needs, the 2010 Transportation Element Plan places an increased emphasis on establishing a multi-modal transportation system that will help to improve the level of service on existing roadways. It also emphasizes increasing transit, rail, and non-motorized transportation options - all as part of a comprehensive travel demand management program.

This Plan explains how local, regional, and Federal plans and policies influence transportation planning. It examines existing conditions for highways, bicycle and pedestrian ways, bus, rail, and other alternative transportation options, and it evaluates travel patterns and trends. Goals, policies, and implementation strategies are included for highways, and alternative transportation options including bike and pedestrian, transit, commuter rail, and aviation. Air quality is also addressed. The implementation section outlines a work program for completing the initiatives

set out in the Plan. A priority is assigned to each of the items identified. These priorities will be evaluated annually prior to the development of the County's and the State's Capital Improvement Plans. This section also identifies the agency or agencies that will be chiefly responsible for implementation. Because this document is part of the County's Master Plan, it will be reviewed every six years as required in the Planning Act of 1992.

The Master Plan

The Harford County Charter requires the development of a Master Plan. The 2004 Master Plan's "guiding principles" – quality-of-life, stewardship of our resources, growth management, redevelopment and revitalization, a sound, balanced, and diversified local economy, commitment to communities, and coordination among agencies serve as the common threads providing continuity and consistency among the various plan elements. The 2004 Land Use Element Plan is the core of the Master Plan, since it provides the basic strategy that will allow the County to accommodate and manage growth. It is supported by other element plans which further the purpose of the Master Plan, including the Transportation Plan.

Maryland Planning Act and Planning Visions 2009

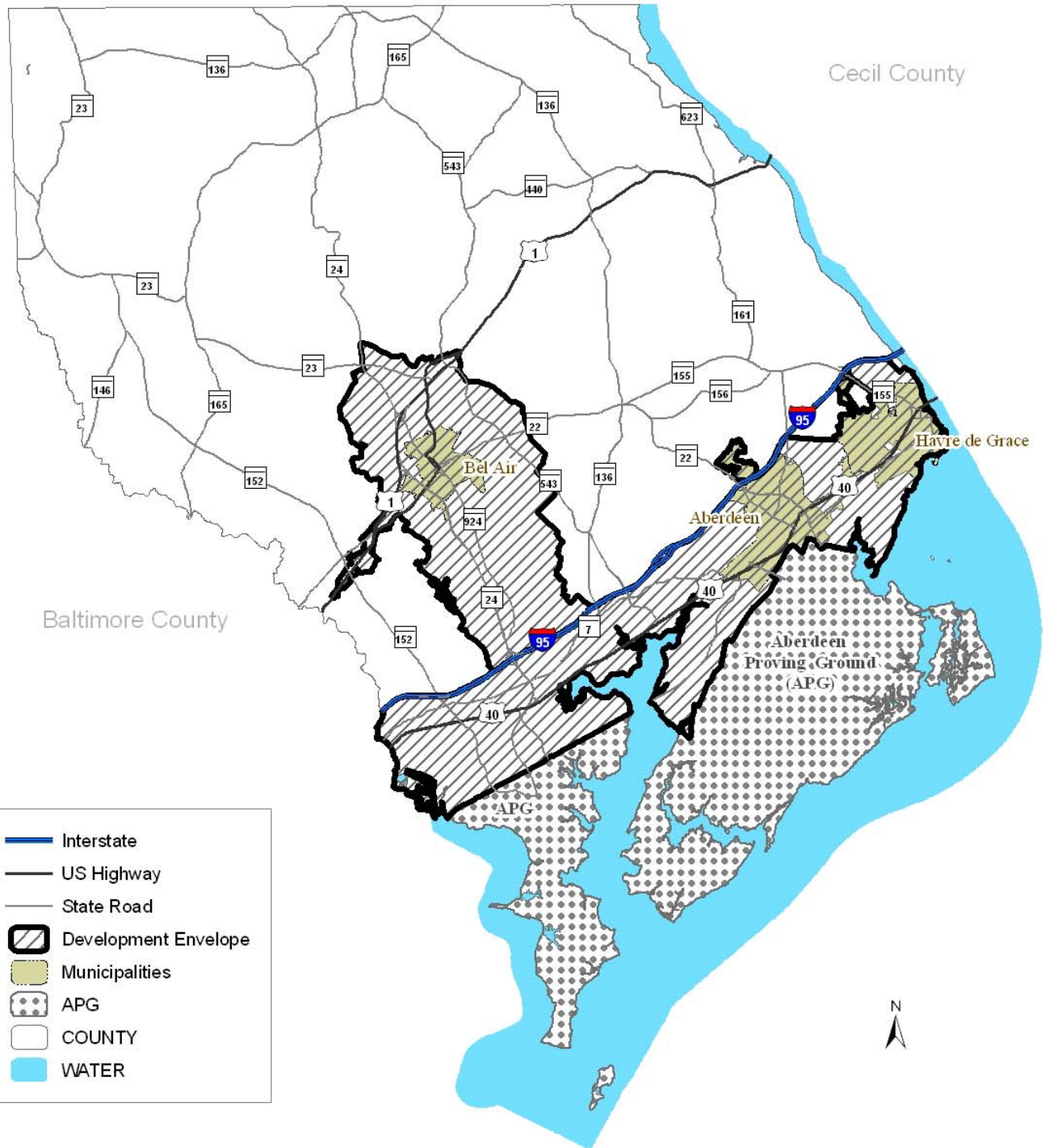
The 1992 Maryland Economic Growth, Resource Protection, and Planning Act combined with the State's Smart Growth Initiatives required local jurisdictions to develop plans that respond to the "Visions" outlined in the Act. In 2009 the Maryland General Assembly passed legislation updating the visions established in the 1992 Planning Act. SB273 – Smart, Green and Growing – Local Government Planning – Planning Visions identifies 12 visions to guide growth and development in Maryland to achieve smart and sustainable growth. These "Visions" are:

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 areas 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 and business 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.

Also influencing transportation planning is the 1997 "Smart Growth" Act that requires all counties to identify and map Priority Funding Areas that meet the requirements of the legislation. In Harford County, the Priority Funding Areas can generally be described as the Development Envelope (Figure 1), the municipalities, designated villages, areas designated for economic development, the Higher Education Conference Center at HEAT and Harford Community College (Figure 2). These areas are locations where the State and Harford County will target their efforts to encourage and support economic development, new growth and redevelopment.

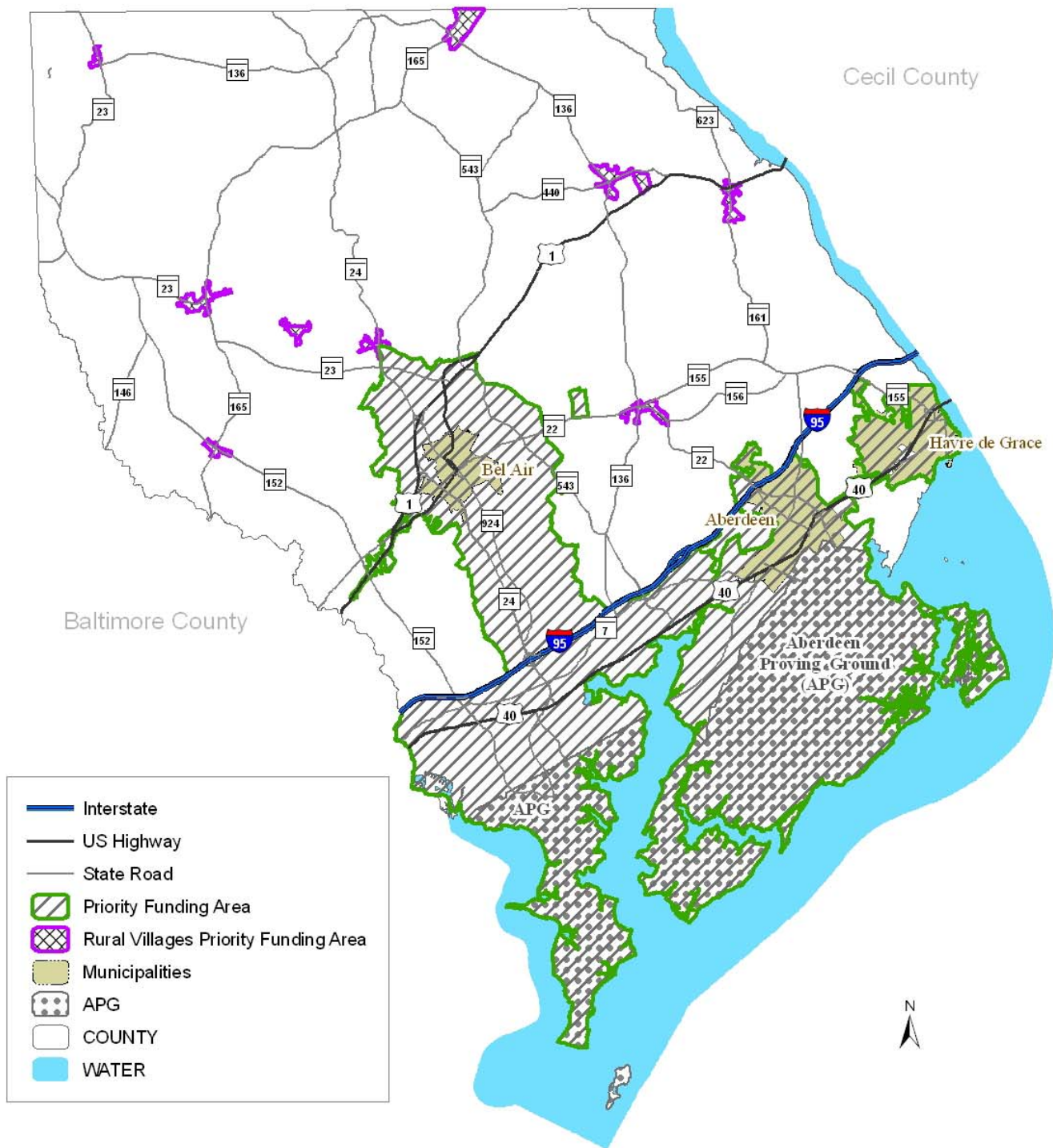
The impact of Smart Growth and the Priority Funding Areas (PFA) designation occurs through State support and funding for various transportation projects needed to maintain and improve the quality of life in Harford County. Priority is given by the State to fund projects within the designated Priority Funding Areas. With few exceptions, funding for state roads outside of Priority Funding Areas is limited to maintenance, with new construction funds being targeted to needed facilities within the PFA boundaries.



Development Envelope

Harford County, Maryland

Figure 1



Priority Funding Areas
Harford County, Maryland

County Overview

Harford County is located in the north central portion of Maryland at the confluence of the Susquehanna River and the Chesapeake Bay (Figure 3). It is bounded by Baltimore County on the west and the Commonwealth of Pennsylvania on the north. Cecil County is located to the east of the Susquehanna River.

Located in the County are three incorporated municipalities, the County seat in the Town of Bel Air and the cities of Aberdeen and Havre de Grace. The County's population has grown from 52,000 in 1950 to a population of over 241,000 in 2007. Current projections put the County's population at over 282,000 by 2030. The number of households is projected to increase from 88,460 in 2005 to over 112,000 in 2030.

The County is also home to Harford Community College (HCC) and the Higher Education and Conference Center at HEAT. Harford Community College is a major transportation destination in the County. Enrollment continues to increase annually with over 8,600 credit and 17,000 non-credit students attending in FY2009. HCC's expansion plans include the establishment of the Towson Campus on its west campus site.

Harford County's labor force is projected to reach approximately 123,000 by 2010. Of these, just over 100,000 are projected to be employed in the private sector while just over 21,000 work for government. However, a large percentage of the County's workers commute to jobs outside the area.

Base Realignment and Closure (BRAC)

The Department of Defense's Base Realignment and Closure Commission evaluates the repositioning of US troops and the need for stateside base closings and adjustments. In 2005 the BRAC Commission recommended a series of military relocations and alignments that will have a significant impact on Harford County and surrounding jurisdictions in Maryland, Pennsylvania, and Delaware. It is estimated that Harford County could experience an employment increase of over 20,000 and a household and population increase of over 7,000 and 17,000 respectively.

This economic and demographic expansion is likely to have a significant impact on traffic patterns in the County. Impacts are anticipated along I-95, US40, and MD Routes 7, 22, 24, 543, 715, and 755 as these roads serve as the primary routes through the County to Aberdeen Proving Ground (APG). BRAC related reports have identified transportation needs and offer recommendations for highway, intersection, and transit needs. Over the next several years, the increase of employment at APG will also generate a multiplier effect in terms of services, office and retail space all of which will generate additional transportation impacts.

As operations at Aberdeen Proving Ground switch from predominately a military mission to civilian contractors, there will be a need for improved transit, rail, and commuting services. Currently, MARC service is available between Perryville and Baltimore and Washington D.C. with two stops in Harford County – Aberdeen and Edgewood. Service is limited to the early morning and evening commutes. There is no weekend service. Lack of service to Delaware, combined with limited service availability between the peak commute hours all impact the effectiveness of the MARC system.

Harford County Vicinity Map

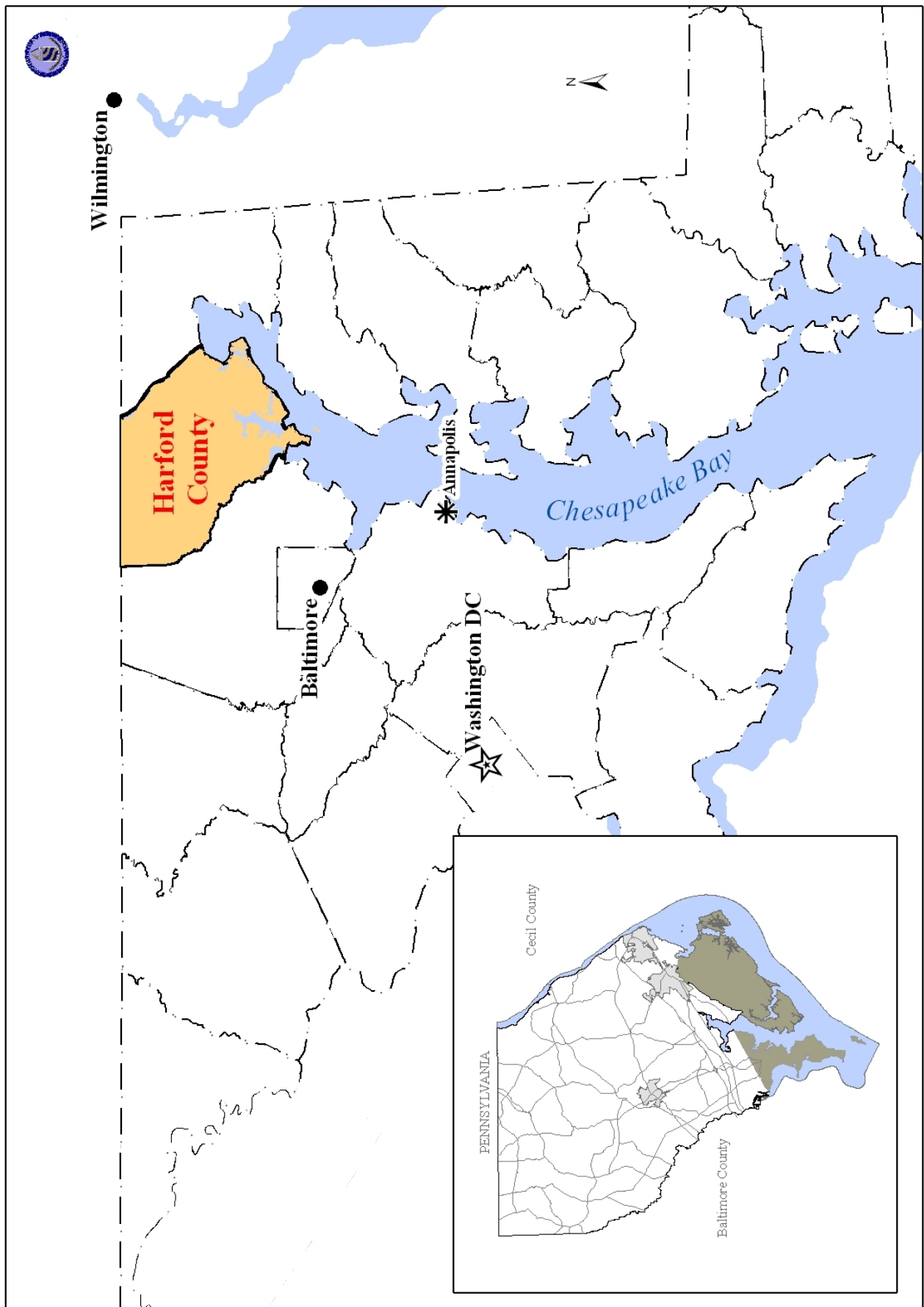


Figure 3

Plans and Regulatory Measures

A series of Federal, State, regional and County laws, plans and policies guide transportation planning in Harford County. This Plan continues to incorporate the spirit of the 1990 Clean Air Act and the Safe Accountable Flexible Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), which replaces the previous Federal Surface Transportation Plans – the Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). It also takes into consideration State and regional plans, and the influence of existing local legislation and policies.

Federal Programs - SAFETEA-LU

The primary mission of the SAFETEA-LU program is to bring focus to issues of national significance while giving State and local decision makers more flexibility in solving transportation problems. The law is designed to help modernize the nation's transportation infrastructure and improve air quality. SAFETEA-LU has provided just over \$583 million per year in funding for Maryland. The money is used to improve highways, roads, bridges, and all aspects of the public transportation system. It also can be used for non-traditional transportation projects such as bicycle and pedestrian facilities, and preservation of Scenic Byways and historic highways. Funds for this program are administered by the State through the Maryland Department of Transportation (MDOT) via pass-throughs to local project sponsors.

State Plans - Maryland Transportation Plan

The Maryland Transportation Plan (MTP) is the State's guiding document for the creation of strategic plans, programs, policies and documents for transportation planning. The 2009 MTP's mission is to "Enhance the quality of life for Maryland's citizens by providing a balanced and sustainable multimodal transportation system for safe, efficient passenger and freight movement.

In Harford County, most of the arterial roads and major collectors are part of the State system, and therefore fall under the State's Transportation Plan. In order to effectively plan for County maintained transportation facilities, it is important to work with the State in the delivery of infrastructure and make sure that plans and goals match whenever possible.

Regional Plans - Baltimore Metropolitan Council's Outlook 2035

Federal transportation planning legislation requires each metropolitan planning organization (MPO) to develop a transportation plan as part of its planning process. In the Baltimore metropolitan region, this responsibility lies with the Baltimore Metropolitan Council (BMC). Members of this organization include Annapolis, Baltimore City and the counties of Anne Arundel, Baltimore, Carroll, Harford, and Howard and the Maryland Departments of the Environment, Planning and Transportation. The transportation plan, developed by the MPO, must cover at least a 20-year planning horizon, and include both long-range and short-range strategies that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods while being fiscally constrained and meeting air quality standards.

The Regional Transportation Plan – Transportation Outlook 2035 - is developed by the Baltimore Regional Transportation Board (BRTB) and is required to be updated every four years to meet Federal transportation planning requirements. The plan outlines capital investments that seek to address the region's transportation needs for the planning period and is tested to ensure compliance with Federal air quality standards. In addition, the plan seeks to encourage interjurisdictional participation and cooperation for the benefit of all the region's residents.

Each local jurisdiction in the MPO is required to submit highway, bike/pedestrian, and transit projects which have committed construction funds plus projects which are planned throughout the life of the plan. Harford County also serves as the official MPO agent for the County's three municipalities, and the projects submitted have been coordinated with them. The planned projects are subject to meeting technical and policy prioritization. Harford County's transportation goals and strategies are consistent with the regional long range plan.

Local Regulations

Adequate Public Facilities

Generally, Adequate Public Facilities (APF) legislation allows local governments to manage growth by tying development to the capacity of existing government services such as water and sewer, roads, and schools. APF laws are designed to ensure that new development does not adversely impact a community's quality of life by overburdening these facilities. It requires adequate services for the development proposed, or that the development be postponed until such services are in place. APF is an important tool for local governments to manage the pace of growth.

Harford County supports balancing land development and the availability of public facilities. APF legislation for roads was adopted in Harford County in 1994 (Bill 94-36) and requires a Traffic Impact Analysis (TIA) for all developments which generate more than 249 trips per day, unless the development is located in the Chesapeake Science and Security Corridor (CSSC). Developments in the CSSC, with direct access onto US 40, are exempt from doing traffic studies unless they generate 1,500 or more trips per day.

The TIA provides information regarding the impact of trips generated by a proposed development on traffic safety and operation within a designated area, and it recommends solutions to mitigate any adverse impacts. Intersections which operate at a level of service (LOS) D or better, based on Highway Capacity Manual (HCM) methodology are considered acceptable when the development is located inside the Development Envelope. Intersections which operate at a LOS C or better are considered acceptable when the development is located outside the Development Envelope. If the intersection drops below these standards, then the developer is required to mitigate the impact of the failing intersection.

Each year, the Department of Planning and Zoning prepares an Annual Growth Report describing growth and facility capacity. This document highlights potential deficiencies as well as capital projects associated with the facilities included in the APF regulations. Included in the Annual Growth Report for the Road System, at select locations, are signalized and unsignalized intersection capacity analysis (LOS and delay in seconds), average daily traffic (ADT) volume, a list of approved County capital projects with current fiscal year construction funding, and a list of State Consolidated Transportation Program projects with current fiscal year construction funding. This information allows County officials to identify existing deficiencies in the road system and guide both County and State capital project funding to the most critical road projects.

Section II

TRANSPORTATION NETWORK and AIR QUALITY

TRANSPORTATION NETWORK AND AIR QUALITY

Introduction

The overall goal of this plan is to reduce the number of vehicle miles traveled and establish measures that will contribute to improving air quality. In the following section, information about existing conditions of various transportation components is provided. Goals, policies and implementation strategies have been established for highways, bicycle, pedestrian and trail networks, transit, commuter rail, transportation demand management programs, aviation based transportation, and air quality.

Highway Network

Goal: Maintain a safe and adequate roadway network that enhances mobility, strengthens the economy, and protects the environment.

Adequate roads are a necessary component of the transportation network. It is important to protect the significant investment already made in the County's highway transportation system, and it is important to keep the system safe and functional. Continued coordination of land use and transportation is necessary for the creation of an effective, efficient and environmentally sound transportation network that serves the population of Harford County and enhances employment opportunities.

The total highway mileage in Harford County, including roads within the municipalities, State owned facilities, and I-95 is approximately 1,460 miles. Of these, approximately 1,045 miles and 225 bridges are maintained by the County. Some of the major transportation corridors include I-95 (maintained by MdTA), US 1, US 40, MD 7, MD 22, MD 23, MD 24, MD 136, MD 146, MD 152, MD 155, MD 165, MD 543, MD 924, Abingdon Road/Singer Road, Hess Road, Jarrettsville Road, MacPhail Road, Moores Mill Road/Vale Road, Ring Factory Road, Tollgate Road, Trimble Road, and Wheel Road. The bridges on US 1, US 40, and I-95, that cross the Susquehanna River, are major components of the regional transportation network. The long term importance of maintaining the functionality and safety of these facilities cannot be overlooked, and their potential to provide multimodal connections between Harford and Cecil counties needs to be addressed.

Growth areas in Harford County are designated along the MD 24/MD 924 corridors as depicted on the Land Use Plan and the I-95/US 40 corridors. These designated growth areas allow County planners to stage and direct growth into defined corridors from Joppatowne to Havre de Grace and north to Bel Air. Directing growth to areas where infrastructure exists, or is planned, helps to reduce the strain on public facilities. Based on planned development, the existing and programmed highway network serving the Development Envelope is adequate. However, with the projected trip generation associated with BRAC, the existing highway network between growth areas may be stressed.

Already, there are many vehicles that travel in a suburban pattern, going from the rural areas to the growth areas. In addition, many vehicles travel in a cross-county pattern, such as the travel

from the Fallston area to Harford Community College or Aberdeen Proving Ground. These trips take commuters through the Development Envelope, and utilizes both urban and rural roads and highways. Therefore, it is important to maintain and provide for the safe and efficient movement of vehicles countywide.

Level of Service

Multiple factors and variables influence the strategies used to prepare and plan for the County's future highway network. These strategies form the basis for the recommendations to maintain and improve County intersections. Level of Service (LOS) is a set of operational conditions describing the ability of a road or intersection to accommodate traffic. The concept uses qualitative measures to characterize operational conditions within a traffic stream and their perception by motorists and passengers. Factors include speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. LOS for road segments is measured by the ratio of traffic volume to road capacity (v/c). For intersections, LOS is measured in seconds of delay per vehicle (s/veh). LOS standards for intersections are established and enforced through Harford County's Adequate Public Facilities regulations in order to maintain an effective transportation network. Within the Development Envelope, intersections must operate with a LOS of D or above, and outside the Development Envelope, intersections must operate at a LOS of C or higher. The LOS for some of Harford County's major intersections is published each year in the Harford County Annual Growth Report. A general definition of each LOS is provided in Appendix A.

Functional Classification

Functional classification is the process by which all streets and highways are identified based on how efficiently they serve the overall channelization of traffic within a network. The functional classification of roads relates directly to the hierarchy of travel distance and traffic volume; while the urban and rural classifications are derived from designations assigned by the United States Bureau of the Census. Basic to this process is the recognition that individual roads and streets do not serve travel independently. Rather, most travel involves movement through a network of roads. It is necessary to determine how this travel is channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any road or street should play in serving the flow of trips throughout the highway network.

Roads and streets play a dual role in the network; first they provide access to property and second they provide for travel and mobility. The functional classification is determined by the role the road plays. Functional classification also provides information concerning roadway design, access management, typical lane configuration, intersection spacing, lane use orientation, and bicycle and pedestrian facility requirements.

The Highway Functional Classification list and map for Harford County are provided in Table 1 and Figure 4. The definition for each classification can be found in the Appendix B. Harford County coordinates with the Maryland State Highway Administration regarding the functional classification of roadways.

In addition to the required Highway Functional Classification list, the County further defined local roads. Local roads are categorized as Business District Roads or Residential Roads. A subcategory of Residential Roads is the Primary Residential Road. Definitions for these categories can be found in Appendix B along with a list and map of Primary Residential Roads.

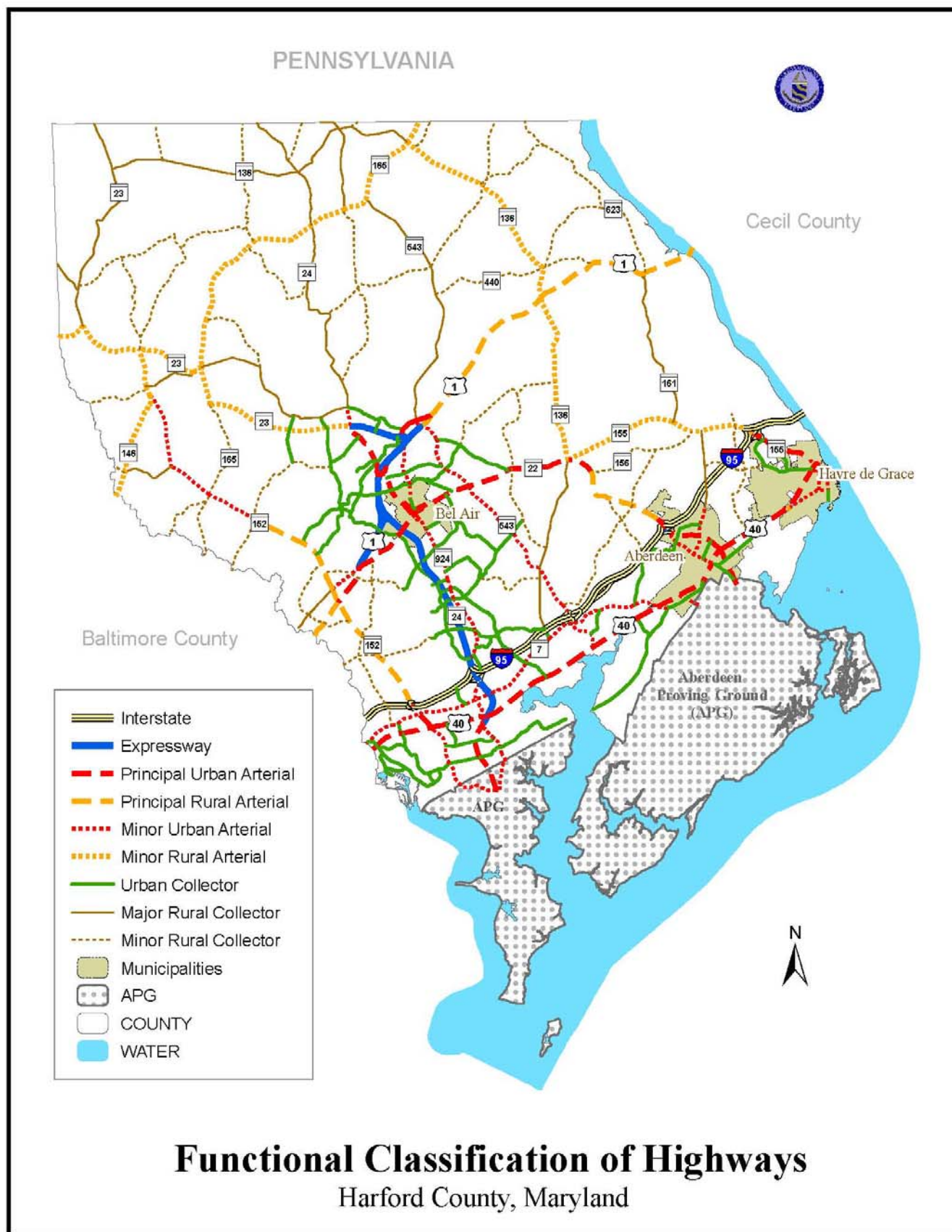


Figure 4

Table 1 HIGHWAY FUNCTIONAL CLASSIFICATION		
ROUTE	FROM	TO
INTERSTATE		
I-95 (JFK Highway)	Baltimore County	Cecil County
FREEWAY/EXPRESSWAY		
MD 23	MD 24	US 1 (Hickory Bypass)
MD 24	US 1 Bypass	MD 755
US 1 Bypass	MD543	MD 147/Business US 1
PRINCIPAL URBAN ARTERIAL		
MD 22	Business US 1 (Baltimore Pike/Main St.)	MD 156
MD 22	Long Drive	APG (Aberdeen)
MD 24	MD 23	US 1 Bypass
MD 24	MD 755	APG (Edgewood)
MD 155	I-95	US 40
MD 924	US 1 Bypass	Business US 1
US 1 (Conowingo Road)	US 1 (Hickory Bypass/Conowingo Rd.)	US 1 Bypass (Bel Air Bypass/Hickory Bypass)
Business US 1 (Baltimore Pike/Bel Air Road)	MD 22	US 1 (Bel Air Rd.)/US 1 Bypass
US 1 (Bel Air Road)	MD 147/Business US 1	MD 152
US 40	Baltimore County	Cecil County
PRINCIPAL RURAL ARTERIAL		
MD 22	MD 156	Long Drive
MD 152	Pleasantville Road	I-95
US 1	Baltimore County	MD 152
US 1	MD 543	Cecil County
MINOR URBAN ARTERIAL		
Edgewood Road	MD 24	US 40
Juniata Street	MD 763	Revolution Street
MD 7	Baltimore County	MD 159
MD 24	Jarrettsville Road	MD 23
MD 132 (W. Bel Air Avenue)	I-95	APG (Aberdeen)
MD 147	MD 152	US 1/US 1 Bypass
MD 152	MD 146	Pleasantville Road
MD 152	US 40	APG (Edgewood)
MD 462 (Paradise Road)	Old Robinhood Road	MD 132
MD 543	US 1 (Conowingo Road)	US 40
MD 715	US 40	APG (Aberdeen)
MD 755	US 40	APG (Edgewood)
MD 763 (Superior Street)	Juniata Street	MD 155 (Ohio Street)
MD 924	Business US 1 (Baltimore Pike/ Fulford Ave.	MD 24
Otsego Street	US 40	Union Avenue
Revolution Street	Union Street	US 40

Table 1
HIGHWAY FUNCTIONAL CLASSIFICATION

ROUTE	FROM	TO
Union Avenue	Otsego Street	Revolution Street
Business US 1 (Conowingo Rd./ Hickory Ave./ Broadway)	US 1 Bypass	MD 924 (Rock Spring Avenue)
MINOR RURAL ARTERIAL		
MD 23	MD 138	MD 165
MD 23	MD 165	MD 24
MD 136	MD 165	MD 22
MD 138	MD 23	Baltimore County
MD 146	MD 23	Baltimore County
MD 155	MD 22	I-95
MD 165	MD 23	Pennsylvania State Line
URBAN COLLECTOR		
Abingdon Road	MD 924	US 40
Beards Hill Road	MD 132	MD 462
E. Bel Air Avenue	Old Post Road	MD 22
Bel Air South Parkway	MD 924	Tollgate Road
Box Hill South Parkway	MD 924	Abingdon Road
Brass Mill Road	MD 543	MD 7
Brierhill Drive	MD 22	MacPhail Road
Bulle Rock Parkway	MD 155	Chapel Road
Bush Chapel Road	MD 132 (Bel Air Ave)	Stepney Road
Bynum Road	Water Tower Way	MD 24
Canvasback Drive	MD 155	Chapel Road
Carrs Mill Road	Grafton Shop Road	MD 152
Chapel Road	Bulle Rock Parkway	Ohio Street
Commerce Drive	Jarrettsville Road	MD 23
Forest Valley Drive	MD 24	Bernadette Drive
Grafton Shop Road	Jarrettsville Road	Red Pump Road
Hanson Road	MD 152	MD 755
Henderson Road	MD 543	North Avenue
Hickory Avenue	Fulford Avenue	Business US 1
High Point Road	Jarrettsville Road	Pleasantville Road
Hookers Mill Road	Abingdon Road	MD 136
Jarrettsville Road	MD 24	US 1
Joppa Road	MD 7	Trimble Road
Joppa Farm Road	MD 7	Trimble Road
Laurel Bush Road	MD 924	Abingdon Road
MD 132	MD 22	US 40 (Oakington Road)
MD 136	I-95	MD 7
MD 159 (Perryman Road)	MD 7	Bush River
MD 715 ext/Perryman North (new)	Perryman Area	I-95
MacPhail Road	MD 924	Wheel Road
Moore's Mill Road	MD 22	MD 924
Mt Royal Avenue	MD 132	MD 22

Table 1
HIGHWAY FUNCTIONAL CLASSIFICATION

ROUTE	FROM	TO
North Avenue	Henderson Road	MD 924
Old Philadelphia Road	US 40	MD 159
Old Post Road	MD 22	E. Bel Air Avenue
Osborne Parkway	MD 24	Grafton Shop Road
Patterson Mill Road	MD 924	Wheel Road
Perryman East (new)	Michaelsville Road	MD 715
Perryman West (new)	US 40 at Mitchell Lane	Canning House Road
Plumtree Road	MD 924	Cypress Drive
Prospect Mill Road	MD 22	MD 543
Red Pump Road	MD 24	Tollgate Road
Ring Factory Road	Whitaker Mill Road	MacPhail Road
Shore Drive	Joppa Farm Road	Bridge Drive
Singer Road	MD 924	Winters Run
Spesutia Road	US 40	MD 159
Southampton Road	Moore's Mill Road	MD 543
Stepney Road	I-95	MD 7
Thomas Run Road	MD 543	Prospect Mill Road
Tollgate Road	Carrs Mill Road	MD 24
Town Center Drive	Joppa Farm Road	Shore Drive
Trimble Road	Joppa Farm Road	Willoughby Beach Road
Union Avenue	Revolution Street	Commerce Street
Vale Road	MD 924	Grafton Shop Road
Water Tower Way	MD 23	US 1 Bypass
Watervale Road	MD 152	Tollgate Road
Wheel Road	Schucks Road	Deadora Drive
Willoughby Beach Road	Trimble Road	Flying Point Road
Woodbridge Center Way	US 40	Hanson Road
Woodsdale Road	MD 924	Present Terminus
MAJOR RURAL COLLECTOR		
Hess Road	MD 146	MD 152
Jarrettsville Road	MD 24	MD 23/MD 165
MD 23	MD 138	Pennsylvania State Line
MD 24	Pennsylvania State Line	Jarrettsville Road
MD 136	MD 23	MD 165
MD 136	MD 22	I-95
MD 147	Baltimore County	MD 152
MD 161	US 1	MD 155
MD 439	Baltimore County	MD 23
MD 462 (Paradise Road)	MD 155	Old Robinhood Road
MD 543	MD 165	US 1
MD 624 (Graceton Road)	Pennsylvania State Line	MD 165
Schuster Road	MD 146	MD 23
MINOR RURAL COLLECTOR		
Boggs Road	High Point Road	Grafton Shop Road

Table 1
HIGHWAY FUNCTIONAL CLASSIFICATION

ROUTE	FROM	TO
Brandenbaugh Road	MD 23	Madonna Road
Carea Road	Pennsylvania State Line	MD 136
Carsins Run Road	MD 156	Creswell Road
Castleton Road	MD 623	MD 440
Cedar Lane	Wheel Road	Cedarday Drive
Cedar Lane	Cedarday Drive (extended)	MD 136
Cedarday Drive	Cedar Lane	Cedar Lane
Chapel Road	MD 462 (Paradise Road)	Bulle Rock Parkway
Cherry Hill Road	MD 543	MD 24
Connolly Road	MD 152	US 1
Constitution Road	Pennsylvania State Line	MD 24
Cool Spring Road	MD 136	Thomas Run Road
Creswell Road	MD 543	Carsins Run Road
Deep Run Road	MD 623	Prospect Road
Earlton Road	Webster-Lapidum Road	Chapel Road
Fawn Grove Road	Pennsylvania State Line	MD 165
Green Road	MD 165	Baltimore County Line
Grier Nursery Road	MD 165	MD 24
Harford Creamery Road	Bradenbaugh Road	Madonna Road
Hess Road	MD 146	Baltimore County Line
Houcks Mill Road	MD 146	Baltimore County Line
Jerrys Road	Madonna Road	Fawn Grove Road
Jerusalem Road	Baltimore County Line	MD 152
Line Road	Pennsylvania State Line	MD 136
Madonna Road	Bradenbaugh Road	MD 23
MD 156	MD 22	MD 155
MD 165	Baltimore County	MD 23
MD 440 (Dublin Road)	US 1	MD 543
MD 623	Pennsylvania State Line	US 1
MD 646 (Prospect Road)	MD 136	MD 543
Old Federal Hill Road	Jarrettsville Road	MD 165
Old Joppa Road	Business US 1	MD 7
Old Pylesville Road (Main Street)	Pennsylvania State Line	MD 136
Pleasantville Road	High Point Road	Baltimore County
Prospect Road	Pennsylvania State Line	MD 136
Reckord Road	Old Fallston Road	MD 152
Robinhood Road	Chapel Road	US 40
Schucks Road	MD 22	MD 136
Singer Road	MD 152	MD 924
St. Clair Bridge Road	MD 24	MD 165
Stepney Road	MD 22	I-95
Thomas Run Road	Prospect Mill Road	MD 22
Whitaker Mill Road	US 1	Ring Factory Road

Future Highway Improvements

An assessment of capital projects needed to accommodate future infrastructure is essential. Utilization of a transportation gravity model is an important tool in assessing the impact of traffic growth in the County. This model, which projects changes in travel demand based on planned levels of growth, identifies roadways where the volume of traffic will exceed the capacity of the roadway. Continued utilization of this model enables the County to update and identify future capital needs.

Harford County annually inspects and rates the existing conditions of over 600 miles of asphalt roads maintained by the County. This information is used to determine which roads need to receive preventative maintenance, which need to be resurfaced, which need to be reconstructed, and which need no repairs at all.

In addition, the Federal Highway Administration (FHWA) requires that bridges with a span of 20 feet or more be inspected every two years. Maryland's bridge inspection program inspects 2,584 bridges and overpasses every two years and spends \$95 million annually on bridge maintenance and repair. MdTa bridges which include the Millard Tydings Memorial Bridge (I-95) and the Thomas J. Hatem Memorial bridge over the Susquehanna River are inspected every year. Harford County DPW expands on the FHWA requirement by inspecting all of the County's 225 bridges every two years. Based on the condition of the structure, recommendations are made about repairs or replacement. Repairs can include stream stabilization around the bridge abutments or structural repairs to the deck or wing walls.

Environmental, physical and/or financial constraints may preclude the achievement of all desirable improvements to the County's highway network. Planning and implementation of feasible alternative solutions are vigorously pursued. In addition, noise pollution and the surrounding land uses along roadways should be considered in the construction and/or upgrades of roadways that have a high volume of traffic.

This plan illustrates the foundation for future roadway improvements based on the level of growth to the year 2035. Harford County recognizes the need for assessing the adequacy of road systems to accommodate increasing travel demands. The County has compiled a list of priority road improvements based on a policy and technical ranking system (Table 2). The priority improvement list updates road improvements that are consistent with long range transportation plans, the Transportation Improvement Plan, MDOT's Consolidated Transportation Plan, and local jurisdiction transportation plans. In addition, the County shall consider additional intersections for road improvements such as US 40 at Spesutia Road, MD 7 at MD 136 and MD 7 at Stepney Road.

Upgrades of existing infrastructure as well as capacity increases are reflected in the projects listed. The improvements show where and to what extent the roadway should be improved to accommodate projected increases in traffic related to land use policies and BRAC. About 64% of the road segments listed as Priority Highway Improvements have also been identified as potential bicycle or pedestrian links. Project funding comes through Federal, State, or local

funds. The recommended highway improvements, that are proposed, are reflected in Figure 5 and Table 2, while committed improvements are shown in Figure 6 and Table 3.



Table 2
PRIORITY HIGHWAY IMPROVEMENTS

*Construction Cost Only

Project	From	To	Improvement	Cost* (millions)	Priority
I-95 (Section 200)	Baltimore Co Line	MD 24	8 to 12 lanes	700	High
I-95 (Section 200)	MD 24	MD 543	6 to 10 lanes	500	High
I-95 (Section 200)	MD 543	MD 22	6 to 8 lanes	400	High
I-95 Interchange	MD 543		Capacity Improvements	15	High
MD 22	MD 543	I-95	2 to 4 lanes	67.4	High
MD 22	I-95	APG (Aberdeen)	4 to 6 lanes	45.9	High
MD 24	US 1 Bypass	MD 23	2 to 4 lanes	38.6	High
MD 24	MD 7	Business US 1	4 to 6 lanes	44.2	High
MD 159 Relocated	present terminus	US 40	Intersection Improvements/ 0 to 2 lanes	15	High
US 1 (Bel Air Road)	MD 152	MD 147	4 to 6 lanes	75	High
US 1 Bypass	MD 147	US 1 (Conowingo Road)	2 to 4 lanes	195.9	High
US 40	MD 543	MD 715	4 to 6 lanes	50	High
Bata Blvd Access Road	MD 543	Bata Blvd	0 to 2 lanes	0.4	High
Cedar Lane	Cedarday Drive	MD 136	2 to 2 lanes upgrade	1.75	High
Henderson Avenue/North Avenue	MD 24	US 1	0 to 2 lanes	2.19	High
Moores Mill Road	MD 924	MD 22	2 to 2 lanes upgrade	9.9	High
Perryman Access Road (1)	Michaelsville Road	MD 715	0 to 2 lanes	3.6	High
Singer Road	Winters Run	Beaver Dam Road	2 to 2 lanes upgrade	0.5	High
Thomas Run Road	MD 22	West Medical Hall Road	2 to 3 lanes	1.8	High
Tollgate Road	Plumtree Road	Bel Air S Pkwy	0 to 2 lanes	1	High
Tollgate Road	Ring Factory Road	Plumtree Road	2 to 2 lanes upgrade	3.954	High
Wheel Road	Laurel Bush Road	Fairway Drive	2 to 2 lanes upgrade	6.1	High
MD 543	US 40	US 1 (Hickory Bypass)	2 to 4 lanes	---	High
I-95 (Section 300)	MD 22	Cecil Co. Line	6 to 8 lanes	---	Medium
I-95 Interchange	MD 155		Capacity Improvements	---	Medium
MD 7	MD 543	US 40	2 to 4 lanes	60	Medium
MD 152	US 40	APG (Edgewood)	Capacity Improvements		Medium
MD 755	MD 24	APG (Edgewood)	2 to 4 lanes	19.4	Medium
Abingdon Road	MD 924	US 40	2 to 2 lanes upgrade	---	Medium
Bush Chapel Road	MD 132	Stepney Road	2 to 2 lanes upgrade	---	Medium

Table 2
PRIORITY HIGHWAY IMPROVEMENTS

*Construction Cost Only

Project	From	To	Improvement	Cost* (millions)	Priority
Carrs Mill Road	MD 152	Grafton Shop Road	2 to 2 lanes upgrade	2.295	High
Chapel Road	Robinhood Road/Earlton Road	Ohio Street	2 to 2 lanes upgrade	---	Medium
Constant Friendship Boulevard	Tollgate Road	Terminus	3 to 3 lanes upgrade	---	Medium
Hess Road	MD 152	Baltimore Co. Line	2 to 2 lanes upgrade	---	Medium
Hookers Mill Road	Laurel Bush Road	MD 136	2 to 2 lanes upgrade	---	Medium
Macphail Road	Breirhill Road	Wheel Road	2 to 2 lanes upgrade	5.7	Medium
Patterson Mill Road	Wheel Road	Gillingham Drive	2 to 2 lanes upgrade	5	Medium
Perryman Access Road - bridge (3)	US 40	Fords Lane	0 to 4 lanes	5.2	Medium
Perryman Access Road (2)	Fords Lane	Canning House	0 to 4 lanes	2.9	Medium
Prospect Mill Road	Thomas Run Road	MD 22	2 to 2 lanes upgrade	1	Medium
Ring Factory Road	Tollgate Road	Whitaker Mill Road	2 to 2 lanes upgrade	---	Medium
Stepney Road	Bush Chapel Road	MD 7	2 to 2 lanes upgrade	---	Medium
Tollgate Road	US 1	Carrs Mill Road	2 to 2 lanes upgrade	3.65	Medium
Trimble Road	MD 152	Joppa Road	2 to 2 lanes upgrade		Medium
MD 715 Extended	present terminus	MD 22	0 to 4 lanes	94.6	Medium
MD 7	MD 24	MD 543	2 to 4 lanes	---	Low
MD 147	US 1/US 1 Bypass	MD 152	Capacity Improvements		Low
MD 152	Carrs Mill Road	I-95	Capacity Improvements		Low
MD 152	Carrs Mill Road	Hess Road	Capacity Improvements		Low
MD 462 (Paradise Road)	MD 22	Old Robinhood Road	2 to 4 lanes	---	Low
MD 715	US 40	APG Gate	6 to 8 lanes	39	Low
MD 924	Moore's Mill Road	US 1 Bypass	3 to 4 lanes	8.6	Low
US 1	MD 152	Baltimore Co. Line	4 to 6 lanes	28.9	Low
US 1 (Business)	MD 147	Tollgate Road	3 or 4 to 5 lanes	15	Low
US 40 Interchange	MD 22		Capacity Improvement	---	Low
US 40	MD 715	Robinhood Road	4 to 6 lanes	---	Low
Macphail Road	MD 924	MD 24	0 to 2 lanes	---	Low
Ohio Street	MD 155	US 40	2 to 4 lanes	---	Low

BRAC INTERSECTION IMPROVEMENTS			
Project	Improvement	Cost* (millions)	Priority
US 40/MD 715 including Old Philadelphia Road	Capacity Improvement	\$45	High
US 40/MD 159/MD 7	Capacity Improvement	\$30	High
US 40/MD 155/MD 7A	Capacity Improvement	\$15	High
MD 22 @ Old Post Road	Capacity Improvement	\$15	High
MD 22 @ MD 462 (Paradise Road)	Capacity Improvement	\$25	High
MD 22 @ Beards Hill Road	Capacity Improvement	\$15	High

PENNSYLVANIA



Cecil County

Baltimore County

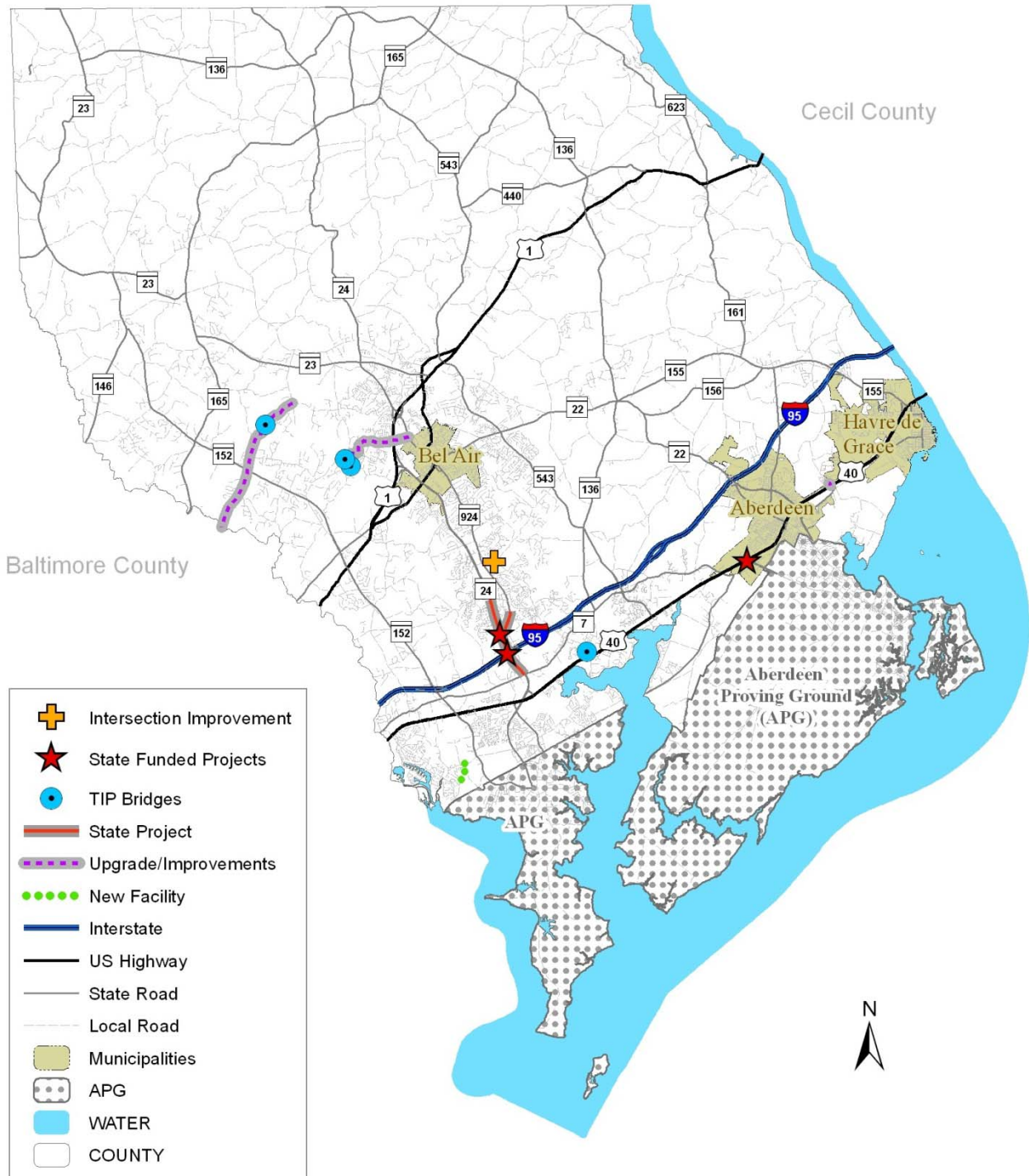


Proposed Roadway Projects

Harford County, Maryland

Figure 5

PENNSYLVANIA



Committed Road Projects 2009 - 2013

Harford County, Maryland

Figure 6

Table 3
2009 Existing and Committed Projects

These are projects where funds are being spent or are committed to the project
through the programmed year of operation

*Construction Cost Only

Project	Limits	Improvement	Cost* (millions)	Agency - Document
I-95 interchange	MD 24/MD 924/Tollgate Road	capacity improvements	38	MdTA - CTP
US 40 interchange	MD 715	capacity improvements	45	SHA - CTP
MD 924	Woodsdale Road to St. Clair Road	widen from 3 lanes to 5 lanes	1.854	SHA - CTP
Pleasantville Road	High Point Road to Baltimore Co. Line	2 to 2 lane resurfacing	1.515	FHWA/Harford County - ARRA
Vale Road	Brentwood Park Drive to MD 924	2 to 2 lane upgrade	1.143	Harford County
Robinhood Road	US 40 to CSX Railroad	2 to 2 lane upgrade	2.075	Harford County - CIP
Joppa Farm Road	Present Terminus to Fort Hoyle Road	New 2 lane road	-----	Developer - Hackley's Reserve
Wheel Rd/Laurel Bush	Wheel Rd/Laurel Bush Rd	Roundabout	1.0	FHWA/Harford County- ARRA
Abingdon Road	Over CSX	Bridge Replacement	1.900	Federal/Harford County- TIP
Carrs Mill Road	Over Bear Creek Branch	Bridge Replacement	0.570	Federal/Harford County- TIP
Pleasantville Road	Over Winters Run	Bridge Replacement	0.715	Federal/Harford County- TIP
Watervale Road	Over Winters Run	Bridge Replacement	2.110	Federal/Harford County- TIP

Vehicle Miles Travel



The Harford County road network carries approximately 2.3 million vehicle miles of travel (VMT)¹ per yearly. I-95 carries more than 138,000 vehicles per day in Harford County, while MD 24 carries over 44,000 vehicles per day. Both US 40 and US 1 each carry over 27,000 vehicles per day. Outside the Development Envelope, MD 152 carries over 26,000 vehicles per day between US 1 and I-95 and over 13,000 between US 1 and MD 146; MD 22 carries over 22,000 vehicles per day between MD 155 and MD 543; and MD 146 carries over 13,000 vehicles between

MD 152 and Baltimore County. Additional information on the average daily traffic volumes for various State and local roads can be found in the County's Annual Growth Report or online at the Maryland Department of Transportation website.

Commuter Patterns

Based on 2000 Census data, 48.1% of Harford County's 111,704 residents who are employed commute to jobs outside of the County. The majority of these commuters work in Baltimore County (49.6%), Baltimore City (29.2%) and Anne Arundel County (4.7%).

More than three-quarters or 76.5% of the jobs in Harford County are filled by commuters who live in the County. Plus there are over 17,700 employees commuting to Harford County. Of the workers who commute to Harford County, most travel from Baltimore County (35.1%). Others commute from Cecil County (25.0%), York County, PA (12.4%) and Baltimore City (10.5%).² Figure 7 shows the destinations of Harford County commuters, and Figure 8 shows the distribution of employee commuting patterns into Harford County.

Highway Safety

From 1998 to 2005, the number of collisions in the County had been trending upward. However, there was a slight decrease in 2006 and 2007, and in 2007 there were fewer reported collisions than in the past four years. There were 3,388 police reported traffic collisions in 2007, of which 30 resulted in fatalities. This accounted for 4.9% of statewide fatalities and 0.8% of local collisions. Of the 3,300+ collisions reported, just over 1,300 were injury collisions and just over 2,000 were property damage collisions. During the same period 1,983 persons were injured on Harford County roadways, including motorists, pedestrians, and bicyclists.

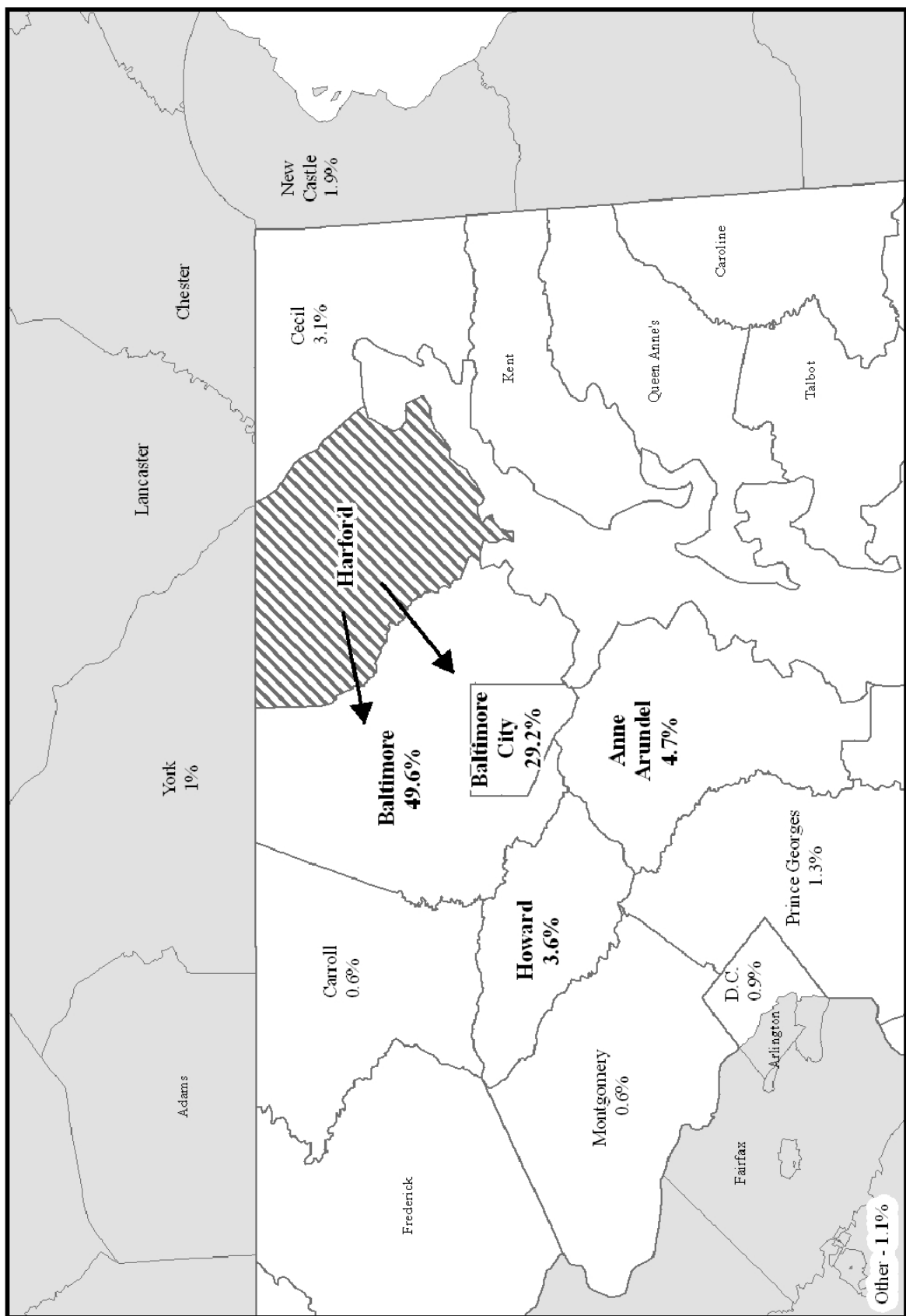
¹ Transportation Outlook 2035, Baltimore Regional Transportation Board

² Maryland Department of Planning, Planning Data Services, from U.S. Census Bureau Commutation Data, March 2003.

Nearly half of all collisions occurred between noon and 8 PM (49.5%). There were eight impairment related fatalities in 2007. This is the lowest number of fatalities reported in a decade. Between 1998 and 2006, there was an upward trend in the number of motorcycle involved accidents. Between 2006 and 2007, however, there was a decrease from 102 to 86 accidents. During the time period of 1998 to 2007, the number of work zone collisions exhibited an upward trend until 2004. In 2004 there were 114 work zone accidents as compared to 36 in 2005, 54 in 2006, and 42 in 2007.

It is Harford County's mission to substantially reduce traffic crashes and fatalities on County roadways through the development and implementation of enforcement activities, educational projects, engineering initiatives and other various highway safety programs. A list and description of the programs are included in Appendix C.

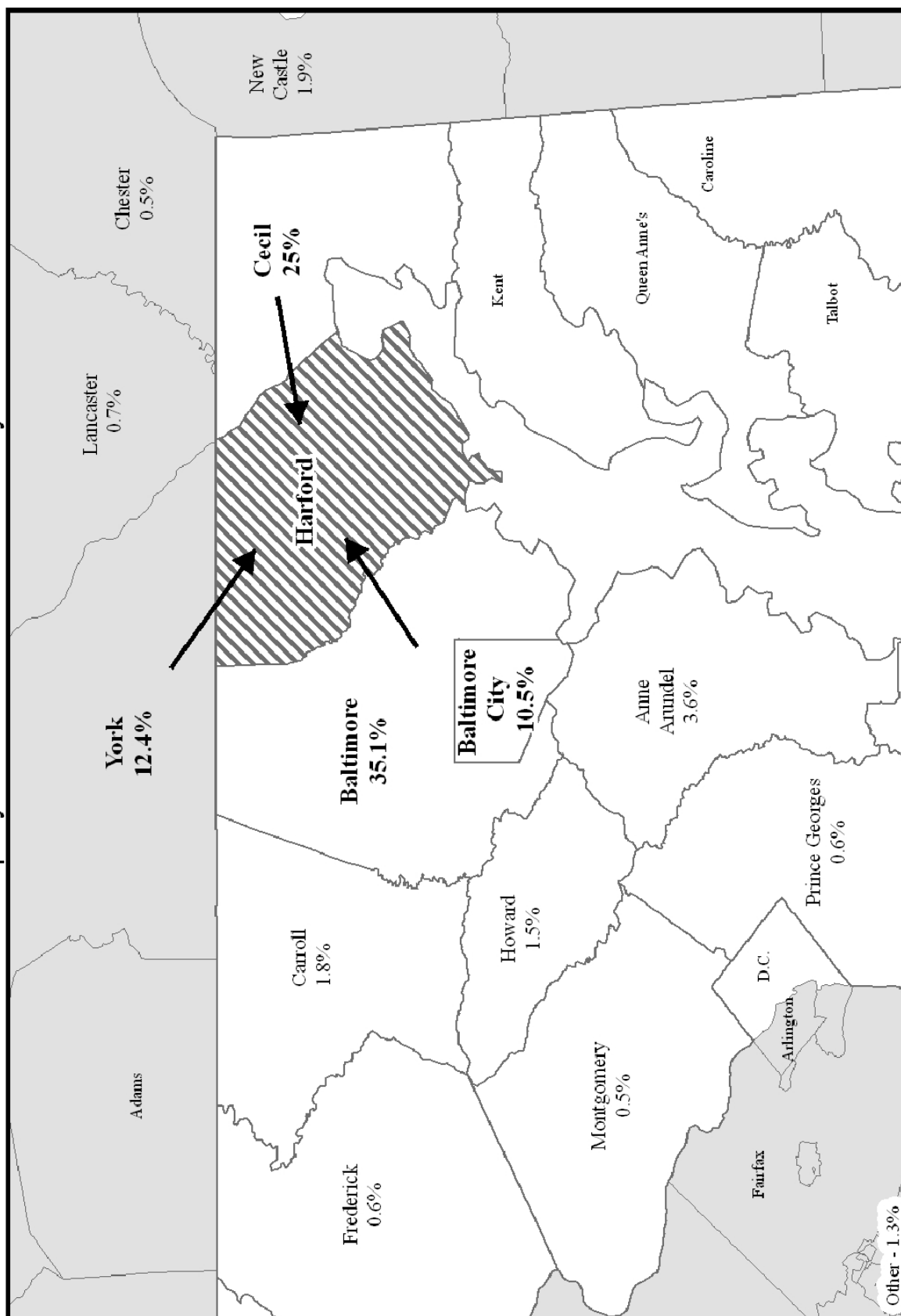
Commute Patterns for County Residents Employed Outside Harford County



Commuting data displayed on this map reflects the 53,731 employed outside Harford County that live within the County (48% of total). The remaining 57,973 employed in County are also residents of Harford County (52%). Based on 2000 Census data.

Figure 7

Commute Patterns for Non-County Residents Employed Within Harford County



Commuting data displayed on this map reflects the 17,793 employed in Harford County that live outside the County (23.2% of total). The remaining 57,973 employed in County are also residents of Harford County (76.5%). Based on 2000 Census data.

Figure 8

Transportation Systems Management and Operations

Maintaining and improving the highway network can be an expensive task. Therefore, it is important to utilize additional methods and sources to help control the escalating costs of highway capital projects.

Transportation system delays and lack of reliability are not just the result of insufficient capacity on the roadways. Nearly half is the result of non-recurring congestion. Much of this type of congestion can be relieved through aggressive and efficient systems operations and management. Improvements in transportation systems management and operations can result in a reduction in roadway congestion equivalent to new capacity at a fraction of the cost.

Transportation systems management and operations is an integrated program which optimizes the performance of existing infrastructure through the implementation of systems, services, and projects designed to preserve capacity and improve security, safety, and reliability.³ It encourages and promotes the safe and efficient management and operation of transportation systems to serve the mobility needs of people and freight and fosters economic growth and development.

Examples of Intelligent Transportation Systems (ITS) include incident management, construction work zone management, improved signal timing/coordination, road weather management, express electronic payments, and traveler information. Implementation of Intelligent Transportation Systems in coordination with bus, rail, transit and bicycle and pedestrian operations are an essential component of highway management and operations.

Highway Policies and Implementation Strategies

Highway Policy 1: *Ensure that necessary highway improvements are funded, developed, managed, and maintained in an equitable and cost-effective manner.*

As the population increases, infrastructure improvements will be needed to accommodate increasing traffic volumes. Federal law requires that the regional transportation plan be “fiscally constrained”, and this has a direct impact on local transportation projects.

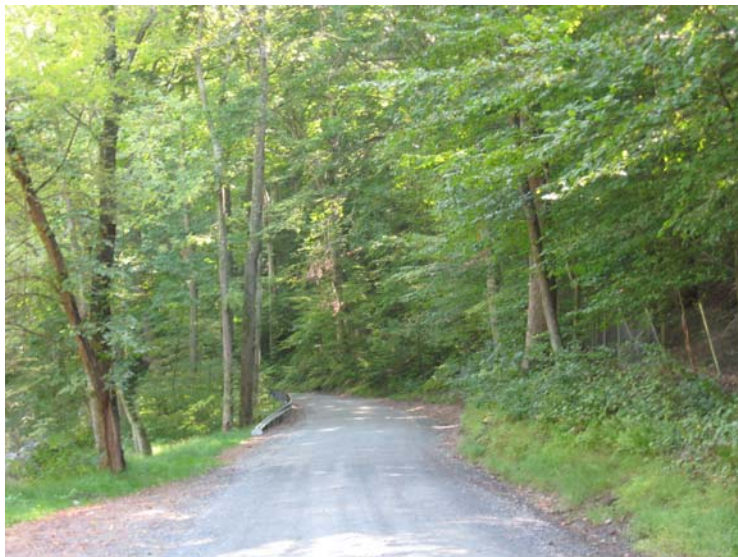
To help ensure that Harford County’s highway system is maintained at a level that supports County needs, the 2004 Land Use Element Plan called for the creation of additional funding mechanisms to balance the impact of new development on public resources. The establishment of new revenue sources, however, must be balanced with efficient planning and engineering that is accomplished in an environmentally sound manner. This planning should also be coordinated with the County’s Hazard Mitigation Plan to address the potential impact that climate change might have on the County’s transportation network.

³ <http://www.ite.org/mega/M&Ofinal.pdf>, Transportation System Management and Operations Mega Issue White Paper, Institute of Transportation Engineers

Implementation Strategies

1. Continue to ensure that land use and transportation decisions are linked so that land uses are supported by the appropriate types, levels, and timing of transportation improvements.
2. Plan, design, and maintain highway facilities in a manner that minimizes the life-cycle cost of the facilities while still providing high-quality service.
3. Evaluate the County's critical transportation facilities and systems to identify their vulnerability to projected sea-level rise and damage from flooding and other weather events.
4. Continue to participate in regional and State transportation planning efforts to ensure that Harford County's transportation needs are addressed in regional and State plans.
5. Continue to coordinate with the municipalities on land use and transportation projects to address local transportation needs.
6. Evaluate the benefit of enacting impact fees for roadway improvements.
7. Continue to work with MdTa and SHA to maintain the functionality and safety of regionally significant bridge facilities, while also addressing multimodal opportunities.

Highway Policy 2: *Ensure that roadways suit the character of the community.*



Preservation of community character is an important part of the County's Land Use Element Plan. As the population of the County continues to grow, it becomes increasingly important that new development and improvements to the County's transportation network be done in a manner that reflects the community's character and vision while also maintaining acceptable levels of service and safety. To ensure that the transportation network reflects the community character and maintains acceptable levels of safety, the use of context sensitive solutions which takes

an approach to planning and designing transportation projects to meet the needs of the users, neighboring community and the environment should be used. The County's designated Rural Villages face additional challenges because of their historic character, proximity of structures to the roadway, and the permitted speed limits on the roads that pass through them.

Implementation Strategies

1. Design, construct, and maintain roadways to be consistent with the character of the community they serve.
2. Reduce the impact of traffic on existing communities through lower speed limits or the implementation of traffic calming and other measures.
3. Maintain unpaved rural roads in their current condition except for improvements needed for safety or to handle increased traffic volumes due to by-right or special exception development.
4. Use Maryland Scenic Byway Design Guidelines when planning road improvements on all designated Scenic Byways and local roads abutting designated Scenic Byways.
5. Ensure that road design and maintenance standards protect, preserve, and when physically and financially possible enhance local, State and National Historic Landmarks and Districts and/or designated Rural Villages.
6. Design plans for road improvement projects should strive for compatibility between the road's purpose and the overall surrounding community, with special consideration for rural character and aesthetic beauty.
7. When viable, Context Sensitive Solutions (CSS), which represent a comprehensive approach to transportation planning by uniting public and private interests, should be applied.
8. When possible, proposed road improvement projects should minimize visual impacts and enhance the experience of motorists and pedestrians.
9. Road improvements shall compliment local, State and National efforts to preserve Historic Landmarks and Districts, and protect natural resources and the environment.
10. Reduce the impact of traffic on existing communities by encouraging mechanisms such as lower speeds, narrow roads with safe pedestrian crossings, the re-direction of truck traffic away from designated historic districts and rural village centers, and the application of design elements and engineering methods that preserve village character.
11. Proposed road improvements shall provide consideration for the unique needs of farm machinery.
12. Removal of or impact to natural features including streams, rock outcrops, and large trees shall be avoided unless absolutely necessary for road safety.
13. Design roadways to provide connectivity for communities which limit cut-through traffic.

Highway Policy 3: *Improve safety on County's roads.*

Transportation safety is a concern for all transportation modes and users - drivers, passengers, cyclists, and pedestrians. Motor vehicle traffic, including commercial traffic and freight, must be accommodated with appropriate roadway efficiency and access to parking. Neighborhood streets must be safe for pedestrians and bicyclists while permitting automobile travel at appropriate speeds.

Implementation Strategies

1. Design intersections and public walkways to meet ADA requirements for curb ramps, accessible traffic signals, and crosswalk enhancements.
2. Design neighborhood streets to discourage speeding and excessive traffic volumes.
3. Continue to utilize street, streetscape, and traffic control design guidelines and standards that address the needs of everyone and comply with ADA requirements.
4. Implement strategies to minimize the negative impacts of truck traffic while maintaining the efficient movement of goods.
5. Continue to investigate accident data and direct capital improvement funds towards intersections and road segments that experience a disproportionately high number of accidents.
6. Implement emergency vehicle preemption technology at intersection signals in the County to enhance the operation of emergency vehicles and services.

Highway Policy 4: *Design and build roadways that provide multimodal opportunities where appropriate.*

Increasing road capacity alone will not fully address the transportation needs within Harford County. While improvements to the roadway system such as adding turning lanes, upgrading and synchronizing signals, and widening roads serve to mitigate for new projects, they do little to reduce the overall volume of traffic on the highway.

Harford County seeks to reduce the proportion of single-occupant-vehicle trips while still providing a high quality transportation network. Complete Streets are roadways designed to provide safe, attractive and comfortable travel for all users – pedestrian, bicyclists, motorists, and public transit. By providing Complete Streets, County residents will have the option of using a variety of transportation modes.

Implementation Strategies:

1. Implement the establishment of Complete Streets by including appropriate facilities to provide safe access and circulation for pedestrians, bicyclists, transit riders, and motorists where feasible.
2. Promote livability and walkability by establishing and maintaining high-quality streetscapes.
3. Encourage street connectivity within the Development Envelope.
4. Enhance mobility by creating linkages between communities and transit and rail facilities to serve commuters.
5. Encourage the use of bicycle, pedestrian, transit improvements, and other TDM options as mitigation measures to address Adequate Public Facilities requirements.

Highway Policy 5: *Provide a transportation system that is designed to be sensitive to the quality of the environment and natural, historic, and cultural resources.*

Addressing transportation needs should be done in a manner that serves as an amenity to the community, helps further the preservation of environmental and historic resources, and promotes a high quality of life. Doing this would advance many of the County's Guiding Principles set forth in the 2004 Land Use Element Plan including improving quality of life, stewardship of resources, implementation of growth management, and promoting a sound, balanced, and diversified local economy. Maryland's Scenic Byway Program is an example of this approach as it recognizes the importance of protecting scenic, cultural, and historic resources when road projects are undertaken along designated byways.

In addition, transportation system improvements should also be designed in a manner that supports Chesapeake Bay restoration strategies. They should also address air quality and encourage maximum energy efficiency. This can be accomplished through the use of high quality, low impact designs, and construction materials and maintenance procedures that complement the existing landscape.



Implementation Strategies

1. Reduce the energy consumption associated with traffic signals and streetlights through greater use of more energy-efficient lighting such as light-emitting diode (LED) displays and the use of roundabouts.
2. Improve energy efficiency and reduce hydrocarbon emissions by encouraging and accommodating nonmotorized travel, public transit, carpooling, telecommuting, and alternative fuel vehicles.
3. Minimize the creation of impervious surface areas for roads and other transportation facilities, and manage the collection and treatment of runoff in an environmentally sensitive manner.
4. Ensure that road design and maintenance standards minimize impacts to natural, historic, and cultural resources.
5. Maintain natural vegetation along roadways to the maximum extent possible.
6. Support the designation of the Lower Susquehanna Heritage Greenway as National Scenic Byway.

7. Proposed road improvement projects located within one-half mile of a designated local, State or National Historic landmark or district shall be subject to a review by the Historic Preservation Commission. Their recommendations should be given the utmost consideration and implemented unless determined to be economically or physically unfeasible.
8. The County shall ensure that designated local, State or National landmarks and districts are protected in a manner consistent with the State policies regarding certified “heritage areas” and shall integrate its preservation planning with the State-enacted Heritage Corridor/Heritage Area Programs.
9. Road improvement projects within a local, State or National district or which impact a designated landmark, including bridge replacements shall employ architecture, building materials and design elements that compliment the community’s unique disposition.
10. The County’s Historic Preservation Planner shall identify and coordinate with the Department of Public Works’ Sign Shop and the State Highway Administration to erect identification signs of County Villages, Hamlets, and Crossroads of importance to Harford County’s History.
11. Public Works officials, in partnership with the Historic Preservation Planner, shall develop a plan that encourages the redirection of through traffic away from designated historic districts and rural villages via changes to Maryland’s Official Highway Map, and internet based/GPS maps.
12. The County Historic Preservation Planner and the Historic Preservation Commission shall pursue Historic designation and protection of the County’s only river “ford” located on Tabernacle Road crossing through Deep Run in Whiteford.
13. Public Works officials, in partnership with the State Highway Administration shall develop a plan that encourages the redirection of truck traffic away from State parks via changes to Maryland’s Official Highway Map, and internet based/GPS maps.
14. Encourage the use of the State Highways Administration’s context sensitivity design standards.

Highway Policy 6: *Ensure that roadways that traverse and/or adjoin State Parks and certain County Parks preserve and when feasible enhance, scenic, aesthetic and environmental resources, while maintaining safety and mobility.*



Preservation and enhancement of our local and State Parks is increasingly important as the County expands. Our parks represent important, non-replaceable environments and ecosystems that deserve our protection. They play a key role in the County’s quality-of-life by providing important recreational, educational and tourism opportunities. Road improvements and maintenance to these unique cultural assets create distinctive challenges due to the inflexible nature of ecological features including

streams, rock outcrops, and large trees. Further, exceptional consideration should be given to the protection and enhancement of the aesthetic qualities and characteristics of these assets.

Implementation Strategies

1. The County and the State shall ensure that State Parks, and County Nature and Estuary Centers and Parks are protected in a manner consistent with the State's policies regarding certified "heritage areas" and shall integrate its preservation planning with the State-enacted Heritage Corridor/Heritage Area Programs.
2. Proposed road improvement projects that alter unique natural features of a roadway shall be minimized to preserve the visual experience of motorists and pedestrians approaching, proceeding through and leaving the park.
3. Road improvement projects within State Parks, and County Nature and Estuary Centers and Parks shall seek input from the public and must have community support through public participation process.
4. The County shall strive to coordinate its preservation of State Parks, and County Nature and Estuary Centers and Parks with the appropriate State and Federal offices, agencies, and departments.
5. Road improvement projects shall be designed utilizing architecture, building materials and design elements that compliment the integrity and character of the park.
6. Create design plans that increase the compatibility between roadway improvement projects and the surrounding community and enhance the park.

Highway Policy 7:

The County shall create and establish a Local Scenic Roadway Corridor Program and a Local Scenic Roadway Corridor Advisory Board to identify corridors for the program. The effort shall be modeled after State and National Scenic Byways Programs.

Highway Policy 8:

The County should establish a Rural Roads Program which will provide the County with another tool to recognize and preserve the County's agricultural and rural heritage. The purpose of this program includes the following:

1. Help protect the scenic and historical qualities of the roads and the adjacent landscape.
2. Support, preserve, and enhance the agricultural/rural character of the County.
3. Contribute to a comprehensive, county-wide inventory of rural/scenic qualities.
4. Provide continuing maintenance of gravel roads, allowing for localized, necessary, safety accommodations (excluding comprehensive stabilization tar and chipping).

5. Periodically review the petition process established for residents to convert gravel/dirt roads to tar and chip or asphalt surfaces the process should take into consideration the concerns of residents living on roads nearest to proposed resurfacing.
6. Allow farmers transportation mobility.



Bicycle, Pedestrian and Trails Network

Recognizing and providing for bicyclist and pedestrian needs provides an environmentally friendly and healthy transportation option. As the County's population increases and traffic congestion grows, providing facilities for non-motorized users becomes an important component of the transportation system both on and off road. The solution is to implement a network of bicycle and pedestrian facilities in the County that enhance and promote non-motorized transportation by improving connectivity, convenience, and safety.



Historically, providing bicycle and pedestrian infrastructure in Harford County has been geared toward recreational activities, walkways within subdivisions, and sidewalk networks within the municipalities. In order to improve congestion, air quality and the overall health of its citizens, the County recognizes the importance of including bicycle, pedestrian, and trail facilities as an integral part of its transportation network.

Bicycle Network

Goal: *Construct and maintain a network of bicycle facilities in the County to enhance and promote non-motorized transportation.*

Bicycling, as a viable mode of transportation, is increasing in popularity. However, cyclists still face many barriers. The perception remains that using a bicycle, especially along heavily traveled roadways, is dangerous and thus deters many from considering riding as a viable means of traveling. Many bike riders, as well as vehicle operators, are often unaware of the rules pertaining to sharing the road, and many of the accidents involving bicycles may be avoidable.

Existing roadway geometry can make bike travel difficult, even for veteran bike riders, and most new riders would prefer the comfort of a dedicated bike lane or trail along a road. The lack of destinations that can appropriately accommodate people who traveled on a bicycle is another factor keeping people from biking as a means of transportation.

Not all biking, however, is done as a means of reaching a destination. Sometimes cyclists ride for recreation or exercise, but these routes can also serve as part of a non-motorized transportation network. An example of this is the East Coast Greenway (ECG). The East Coast Greenway is a bicycle route that will connect the urban areas of the east coast between Maine and Florida. Using trails and on-road segments, it is described as a hard surface bicycle equivalent of the Appalachian Trail. A portion of the ECG crosses through Harford County and adequate facilities for Greenway users will be needed along local and State roads. Other

recreational trails for bicycles that share or cross roads include the MA and PA trail in Bel Air, and the Lower Susquehanna Heritage Greenway (LSHG) in the eastern part of the County.

While bicycle use occurs throughout the County, on both State and local roadways, designated bikeways in Harford County are located predominately on State roads. The Maryland Bicycle Map, produced by the State Highway Administration identifies signed bicycle routes along State roadways. These roadways include sections of US Routes 1 and 40 and MD Routes 23, 155, 161, and 165. (Figure 9). Other State routes such as MD 22 and MD 543 are heavily used by local riding clubs and some commuters and recreational cyclists. Share the Road signs are being added to some State roadways that are not included on the official State Bicycle Map.



On County roads, designated bike lanes have been established on a portion of Tollgate Road between Singer Road and Constant Friendship Boulevard, and in Joppatowne along Shore Drive on Rumsey Island. Bicycle routes are also proposed in the Edgewood and Joppa-Joppatowne Community Plans and proposed for Lapidum and Stafford Roads.



To determine the need for additional bicycle facilities, it is necessary to estimate the relative bicycling travel demand in the County. In order to prioritize automotive roadway improvements, transportation planning uses data like Average Daily Traffic (ADT) and Level of Service (LOS). Analogous bike use figures, however, are difficult to acquire. Also, “revealed demand”, the actual number of riders, does not necessarily show where people want to ride, because bike and pedestrian use patterns depend on perceived comfort and safety.

An evaluation methodology known as the Latent Demand Score (LDS) offers a better reflection of needed bicycle and pedestrian facilities. The LDS measures the level of use a facility would receive if the proper infrastructure existed. Road segments with the highest latent demand level

would be expected to have the highest ridership, and therefore should have the highest priority for future improvements.

Bicycle Level of Service (BLOS) and Bicycle Level of Comfort (BLOC) both take into consideration existing roadway conditions. These evaluations consider shoulder width or the width of the outside curb lane, pavement surface conditions, posted speed limits, and average traffic volumes including percentage of trucks, and the volume/capacity ration. The Baltimore Metropolitan Council collected data on bicycle LDS and LOS for several state roads in the Baltimore Region (Figures 10 and 11). This data was presented in the 2004 “Bicycle Level of Service Evaluation Update and Pedestrian LOS Evaluation Report”. The report indicated that in Harford County, high demand occurs along the MD Route 24 corridor, the MD Route 22/US 1 corridor, the US 40/MD Route 7 corridor and along MD Route 22 entering Aberdeen Proving Ground. There is also a high amount of demand along segments of MD Route 543, MD Route 136 and MD Route 755. This information is now included as a layer in the County’s Geographic Information System (GIS) and can be used as part of the analysis in determining future bicycle routes. Using this information, the County should work with the State Highway Administration to establish bicycle facilities on roads within the Development Envelope that link population and employment centers.

The State’s 2002 Bicycle and Pedestrian Access Master Plan also identified roads in Harford County that have the greatest need for bike and pedestrian improvements. The roads were identified with input from the County. The State’s Plan identifies the roadways as being either a Tier 1 or a Tier 2 as related to bicycle level of comfort (BLOC). Road segments listed as Tier 1 demonstrated the greatest need for bicycle accommodations, whereas roadways listed as Tier 2 showed less need. For each tier, specific criteria were established based on the segment being included in a local plan, its level of service, and for Tier 1 segments their location within a Priority Funding Area. A listing of the Tier 1 and Tier 2 roadways in Harford County is provided in Table 4.



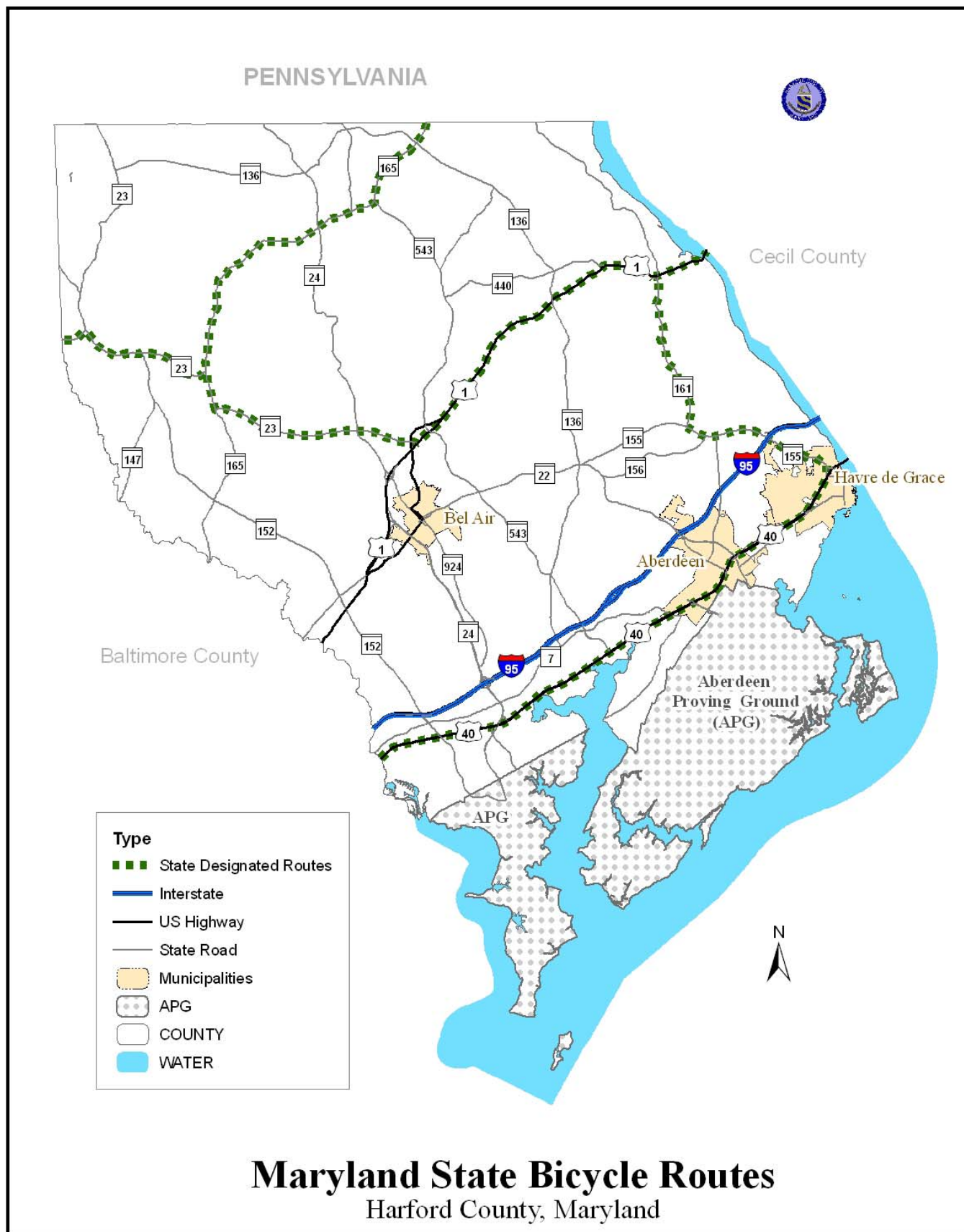


Figure 9

Table 4
Maryland State Highway Bicycle Improvement Needs

*BLOC – Bicycle Level of Comfort

Route #	Road Name	From	To	BLOC*	Priority Funding Area
Tier 1 Locations					
US 1	Bel Air Rd	Bel Air Bypass	Tollgate Rd	F	1
US 1	Bel Air Rd	Mountain Rd	Harford Rd	F	1
US 1	Bel Air Rd	Emmorton Rd	Broadway Ave	E	1
US 1	Bel Air Rd	Emmorton Rd	Emmorton Rd	E	1
US 1	Baltimore Pike	Tollgate Rd	Emmorton Rd	E	1
US 1	Bel Air Rd	Emmorton Rd	Emmorton Rd	E	1
MD 7	Philadelphia Rd	Abingdon Rd	Calvary Rd	E	1
MD 7	Post Rd	Pulaski Hwy	S. Union Ave	E	1
MD 7	Philadelphia Rd	Emmorton Rd	Abingdon Rd	E	1
MD 22	Fulford Ave/ Churchville Rd	Emmorton Rd	Brier Hill Rd	F	1
MD 24	Rock Spring Rd/ Main St	Red Pump Rd	Bel Air Rd	F	1
MD 132	W. Bel Air Rd	Access Rd	Beards Hill Rd	E	1
MD 155	Level Rd	Post Rd	Pulaski Hwy	F	1
MD 159	Perryman Rd	Canning House Rd	Terminus	E	1
MD 543	Fountain Green Rd	Churchville Rd	Thomas Run Rd	F	1
MD 755	Edgewood Rd	Pulaski Hwy	Emmorton Rd	E	1
Tier 2 Locations					
US 1	Bel Air Rd	County Line	Mountain Rd	F	0
US 1	Bel Air Rd	Broadway Ave	Vale Rd	D	1
US 1	Bel Air Rd	Vale Rd	Bel Air Rd	D	1
US 1	Conowingo Rd	Dublin Rd	Darlington Rd	D	0
US 1	Conowingo Rd	Darlington Rd	Castleton Rd	D	1
US 1	Conowingo Rd	Fountain Green Rd	Hickory Bypass	D	0
US 1	Baltimore Pike	N. Tollgate Rd	Emmorton Rd	C	1
US 1	Conowingo Rd	Calvary Rd	Dublin Rd	C	0
US 1	Conowingo Rd	Castleton Rd	County Line	C	0
US 1	Bel Air Rd	Harford Rd	N. Tollgate Rd	C	1
US 1	Conowingo Rd	East-West Hwy	Bel Air Bypass	B	1
US 1	Conowingo Rd	Hickory Bypass	Calvary Rd	B	0
US 1	Bel Air Rd	Bel Air Rd	Fountain Green Rd	B	1
US 1	Bel Air Rd	Emmorton Rd	East-West Hwy	A	1
MD 7	Philadelphia Rd	Calvary Rd	Riverside Pkwy	F	0
MD 7	Philadelphia Rd	Old Joppa Rd	Mountain Rd	E	1
MD 7	Philadelphia Rd	Mountain Rd	Emmorton Rd	D	1
MD 7	Post Rd	S. Union Ave	Pulaski Hwy	C	1
MD 7	Philadelphia Rd	Stepney Rd	Pulaski Hwy	B	1
MD 7	Philadelphia Rd	Riverside Pwky	Stepney Rd	A	1
MD 22	Churchville Rd	Brier Hill Rd	Fountain Green Rd	F	1
MD 22	Churchville Rd	Paradise Rd	Pulaski Hwy	D	1

Table 4
Maryland State Highway Bicycle Improvement Needs

*BLOC – Bicycle Level of Comfort

Route #	Road Name	From	To	BLOC*	Priority Funding Area
MD 22	Churchville Rd	N. Post Rd	APG	C	0
MD 22	Churchville Rd	Aldino Rd	Stepney Rd	C	0
MD 22	Churchville Rd	Stepney Rd	Carsins Run Rd	B	0
MD 22	Churchville Rd	Carsins Run Rd	JFK Memorial Blvd	B	0
MD 22	Aberdeen Thruway	Beards Hill Rd	Paradise Rd	B	1
MD 22	Churchville Rd	Level Rd	Aldino Rd	B	1
MD 22	Aberdeen Thruway	JFK Memorial Blvd	Beards Hill Rd	A	1
MD 23	Norrisville Rd	County Line	Calvary Rd	F	0
MD 23	Norrisville Rd	Troyer Rd	Jarrettsville Pk	F	0
MD 23	Norrisville Rd	Calvary Rd	Harford Rd	E	0
MD 23	Norrisville Rd	Harford Rd	Old York Rd	E	0
MD 23	Norrisville Rd	Jarrettsville Pk	Baldwin Mill Rd	E	0
MD 23	Norrisville Rd	Old York Rd	Troyer Rd	D	0
MD 23	East West Hwy	High Point Rd	Emmorton Rd	C	0
MD 23	East West Hwy	Baldwin Mill Rd	High Point Rd	B	0
MD 23	East West Hwy	Rock Spring	Bel Air Rd	A	1
MD 24	Rock Spring Rd	Dellere Street	Red Pump Rd	F	1
MD 24	Rocks Rd	Jarrettsville Rd	East West Hwy	E	0
MD 24	Rocks Rd	County Line	Calvary Rd	D	0
MD 24	Rocks Rd	Calvary Rd	Baldwin Mill Rd	D	0
MD 24	Vietnam Memorial Hwy	Bel Air Rd	E. Ring Factory Rd	D	1
MD 24	Vietnam Memorial Hwy	Singer Rd	Emmorton Rd	D	1
MD 24	Emmorton Rd	Philadelphia Rd	Pulaski Hwy	D	1
MD 24	Emmorton Rd	Bel Air Rd	Bel Air Rd	D	1
MD 24	Vietnam Memorial Hwy	E. Ring Factory Rd	Singer Rd	D	1
MD 24	Emmorton Rd	Pulaski Hwy	Edgewood Rd	C	1
MD 24	Emmorton Rd	JFK Memorial Blvd	Philadelphia Rd	B	1
MD 24	Emmorton Rd	Edgewood Rd	APG	B	1
MD 24	Emmorton Rd	Emmorton Rd	JFK Memorial Blvd	A	1
MD 24	Otter Creek Ramp	Emmorton Rd	Pulaski Hwy	A	1
US 40	Pulaski Hwy	Superior Rd	County Line	F	0
US 40	Pulaski Hwy	Fulford Ave	N. Post Rd	D	1
US 40	Pulaski Hwy	N. Post Rd	Post Rd	D	1
US 40	Pulaski Hwy	County Line	Magnolia Rd	B	1
US 40	Pulaski Hwy	Edgewood Rd	Emmorton Rd	B	1
US 40	Pulaski Hwy	Emmorton Rd	Otter Creek Rd	B	1
US 40	Pulaski Hwy	Otter Creek Rd	Abingdon Rd	B	1
US 40	Pulaski Hwy	Abingdon Rd	Riverside Rd	B	0
US 40	Pulaski Hwy	Riverside Rd	Spesutia Rd	B	0
US 40	Pulaski Hwy	Spesutia Rd	Philadelphia Rd	B	1

Table 4
Maryland State Highway Bicycle Improvement Needs

*BLOC – Bicycle Level of Comfort

Route #	Road Name	From	To	BLOC*	Priority Funding Area
US 40	Pulaski Hwy	Magnolia Rd	Edgewood Rd	A	1
US 40	Pulaski Hwy	Access Rd	W. Bel Air Rd	A	1
US 40	Pulaski Hwy	Post Rd	Level Rd	A	1
US 40	Pulaski Hwy	Level Rd	Superior Rd	A	1
US 40	Pulaski Hwy	Philadelphia Rd	Access Rd	A	1
MD 132	N. Post Rd	Aberdeen Thruway	Pulaski Hwy	A	1
MD 132	Beards Hill Rd	Aberdeen Thruway	W. Bel Air Rd	C	0
MD 132	W. Bel Air Rd	Pulaski Hwy	Access Rd	A	1
MD 136	Priestford Rd	Conowingo Rd	Level Rd	E	0
MD 136	Calvary Rd	Level Rd	Shuck's Rd	E	0
MD 136	Calvary Rd	Shuck's Rd	Riverside Rd	E	0
MD 136	Calvary Rd	Riverside Rd	JFK Memorial Blvd	E	0
MD 136	Whiteford Rd	Pylesville Rd	Quarry Rd	D	0
MD 136	Whiteford Rd	Prospect Mill Rd	Dublin Rd	B	0
MD 136	Whiteford Rd	Graceton Rd	Pylesville Rd	B	0
MD 136	Priestford Rd	Quarry Rd	Prospect Mill Rd	A	0
MD 136	Whiteford Rd	Dublin Rd	Conowingo Rd	A	0
MD 138	Troyer Rd	Norrisville Rd	County Line	C	0
MD 146	Jarrettsville Pk	Norrisville Rd	Fallston Rd	F	0
MD 146	Jarrettsville Pk	Fallston Rd	Hess Rd	F	0
MD 146	Jarrettsville Pk	Hess Rd	County Line	F	0
MD 147	Harford Rd	County Line	Mountain Rd	F	0
MD 147	Harford Rd	Mountain Rd	Bel Air Rd	F	0
MD 152	Fallston Rd	Jarrettsville Pk	Hess Rd	F	0
MD 152	Mountain Rd	Bel Air Rd	Old Joppa Rd	E	0
MD 152	Mountain Rd	Singer Rd	JFK Memorial Blvd	E	0
MD 152	Fallston Rd	Pleasantville Rd	Carrs Mill Rd	C	0
MD 152	Fallston Rd	Carrs Mill Rd	Harford Rd	C	0
MD 152	Fallston Rd	Baldwin Mill Rd	Pleasantville Rd	B	0
MD 152	Mountain Rd	Harford Rd	Bel Air Rd	B	0
MD 152	Mountain Rd	Old Joppa Rd	Singer Rd	B	0
MD 152	Fallston Rd	Hess Rd	Baldwin Mill Rd	A	0
MD 152	Magnolia Rd	Hanson Rd	Terminus	A	1
MD 155	Level Rd	JFK Memorial Blvd	Superior Rd	E	0
MD 155	Level Rd	Hopewell Rd	Darlington Rd	C	0
MD 155	Level Rd	Aldino Rd	Paradise Rd	C	0
MD 155	Level Rd	Paradise Rd	JFK Memorial Blvd	C	0
MD 155	Level Rd	Churchville Rd	Hopewell Rd	B	0
MD 159	Perryman Rd	Pulaski Hwy	Old Philadelphia Rd	D	1
MD 159	Perryman Rd	Old Philadelphia Rd	Spesutia Rd	B	1
MD 159	Perryman Rd	Spesutia Rd	Canning House Rd	A	1
MD 161	Darlington Rd	Stafford Rd	Level Rd	E	0

Table 4
Maryland State Highway Bicycle Improvement Needs

*BLOC – Bicycle Level of Comfort

Route #	Road Name	From	To	BLOC*	Priority Funding Area
MD 161	Darlington Rd	Conowingo Rd	Castleton Rd	D	1
MD 161	Main St	Castleton Rd	Stafford Rd	D	1
MD 165	Baldwin Mill Rd	E. Jarrettsville Pk	East West Hwy	E	0
MD 165	Baldwin Mill Rd	East West Hwy	Fallston Rd	E	0
MD 165	Baldwin Mill Rd	Fallston Rd	County Line	E	0
MD 165	Pylesville Rd	County Line	Whiteford Rd	B	0
MD 165	Pylesville Rd	Whiteford Rd	Ady Rd	A	0
MD 165	Pylesville Rd	Ady Rd	Graceton Rd	A	0
MD 165	Baldwin Mill Rd	Graceton Rd	Rocks Rd	A	0
MD 439	Old York Rd	Norrisville Rd	County Line	E	0
MD 440	Dublin Rd	Whiteford Rd	Conowingo Rd	C	0
MD 462	Paradise Rd	JFK Memorial Blvd	Aberdeen Thruway	C	0
MD 462	Paradise Rd	Aberdeen Thruway	W. Bel Air Ave	C	1
MD 462	Paradise Rd	Level Rd	JFK Memorial Blvd	A	0
MD 543	Ady Rd	Prospect Rd	Dublin Rd	E	0
MD 543	Ady Rd	Dublin Rd	Conowingo Rd	E	0
MD 543	Fountain Green Rd	Thomas Run Rd	Prospect Mill Rd	E	0
MD 543	Fountain Green Rd	W. Wheel Rd	Calvary Rd	E	0
MD 543	Ady Rd	Pylesville Rd	Prospect Rd	D	0
MD 543	Fountain Green Rd	Prospect Mill Rd	Churchville Rd	D	1
MD 543	Fountain Green Rd	Churchville Rd	W. Wheel Rd	D	0
MD 543	Creswell Rd	Calvary Rd	JFK Memorial Blvd	C	0
MD 623	Flintsville Rd	County Line	Deep Run Rd	C	0
MD 623	Flintsville Rd	Deep Run Rd	Conowingo Rd	C	0
MD 623	Castleton Rd	Conowingo Rd	Darlington Rd	C	1
MD 624	Graceton Rd	Whiteford Rd	Pylesville Rd	D	0
MD 646	Prospect Rd	Ady Rd	Whiteford Rd	E	0
MD 715	Access Rd	Pulaski Hwy	Maryland Rd	D	1
MD 755	Edgewood Rd	Emmorton Rd	Willoughby Beach Rd	D	1
MD 755	Edgewood Rd	Willoughby Beach Rd	Terminus	D	1
MD 763	Superior Rd	Pulaski Hwy	Juniata St	B	1
MD 763	Superior Rd	Level Rd	Pulaski Hwy	B	1
MD 924	Rock Spring Rd/Main Street	Vale Rd	Fulford Ave	D	1
MD 924	Rock Spring Rd	Bel Air Bypass	Vale Rd	B	1
MD 924	Emmorton Rd	W. Wheel Rd	Emmorton Rd	B	1
MD 924	Emmorton Rd	Fulford Ave	E. Ring Factory Rd	A	1
MD 924	Emmorton Rd	E. Ring Factory Rd	W. Wheel Rd	A	1

As an additional step to determine where cycling activity is occurring in the County, the Department of Planning and Zoning conducted a survey in 2005. The survey was designed to capture information about when people used their bikes, the routes used and the condition of these routes. Responses were received from over 200 cyclists. Of those surveyed, 24% used their bike to commute to work and 35% cycled for errands. The provision of bikeways was cited by 89% of the respondents as the best way to encourage cycling. Of the respondents who do not commute by bike, more than 50% were interested in trying it. The most important factor affecting their decision was the availability of bike friendly routes.

Achieving the needed bike compatible infrastructure in Harford County will require cooperation with neighboring local governments and the State. Most of the major highway corridors in Harford County are State roads, making the State the primary party responsible for constructing and designating bike facilities along these roadways. The County needs to work closely with the State to have roads with existing capacity for a bike lane marked and signed, and to ensure that any roadway undergoing major upgrades be investigated for possible bicycle facilities in the preliminary design phase.

Just as important as State coordination is coordination with the municipalities. Currently, the municipalities have included bicycle routes as part of their Comprehensive Plans. A countywide bicycle plan, which incorporates these routes, is needed because in many cases the trips people take cross them over jurisdictional boundaries. A cross-jurisdictional plan would help ensure that facility improvements allow for a smooth seamless ride for the cyclist.

To help address this issue on the regional level, a representative from Harford County serves on the Bike and Pedestrian Advisory Group which is a sub-committee of the Baltimore Regional Transportation Board at the Baltimore Metropolitan Council. In 2007, the advisory group worked with all of the jurisdictions in the BMC, and a consultant, to update the “Plan for Bicycling and Walking in the Baltimore Region”. The plan has seven goals aimed at meeting the physical and educational needs of bicycles and pedestrians through updated plans and regulations. This update of the Transportation Plan is part of the process of implementing the BMC’s regional plan, but changes to the Building Code, design guidelines, and educational policies are needed if Harford County is to truly become a bike friendly community.

This group also helps to facilitate the annual observance of Bike to Work Day. The Bike to Work Day event is part of a national and regional program to help promote cycling as an alternative commuting option. Harford County’s first Bike to Work Day event was held in 2001. Attendance has continued to increase and in 2006 the Brief Case Challenge was added to encourage employers to support cycling as a commuting choice. In 2007, a Bike Mentor program was established to help those interested in learning how to commute. The program provides one on one guidance on how to make the transition from automobile to bike commuter.



Bicycle Policy 1: *Develop and implement a consistent and effective program for the provision of bicycle facilities.*

Harford County recognizes the role bicycle usage plays in reducing vehicular congestion, improving air quality, and promoting physical activity and public health, and planning for bicycle facilities is not a new idea. However in the past it has not been successfully implemented for various financial and logistical reasons. As the attitude towards bicycles as a viable mode of transportation continues to increase, opportunities exist to create and implement plans for new and upgraded bicycle facilities.

Bicycle use in Harford County is increasing. Recognizing and providing for bicyclists is becoming an increasingly important component of planning in Harford County. While the provision of unmarked shoulders can constitute an effective bike-friendly facility on low-volume rural roads (with low numbers of conflict points), on high-volume roads dedicated bicycle facilities and appropriate signage needs to be provided. As the population of Harford County continues to increase especially within the Development Envelope, and traffic volumes grow, providing adequate bicycle facilities - especially those that link to employment and education centers, and transit options- increases in importance.

Implementation Strategies

1. Provide accommodations for bicycles on all collector and larger roads within and leading to the Development Envelope at the time of construction or major reconstruction.
2. Utilize the State's two tier prioritization guidelines for bicycle improvements and create a County system for prioritizing the need for bicycle facilities on or along County roads.
3. Coordinate with the municipalities regarding the implementation of inter-jurisdictional bicycle facility improvements and the development of a Bicycle Master Plan.
4. Continue serving on the Bike and Pedestrian Advisory Group at the Baltimore Metropolitan Council to ensure that local needs are addressed and to promote regional facilities.
5. Implement applicable recommendations included in the Baltimore Metropolitan Council's Bike and Pedestrian Action Plan.
6. Ensure that new development and redevelopment is designed to accommodate bicycles by providing separate bike trails where appropriate.
7. Identify areas where bicycle parking or storage facilities should be established.
8. Increase the regularity of street and shoulder sweeping along major roads especially those with bicycle facilities.
9. Encourage installation of bike racks in retail spaces adjacent to residential.
10. Determine where existing conditions are safe for bike lanes and apply appropriate signage and street paint.

Bicycle Policy 2: *Target funding and infrastructure to areas where bicycle safety and capacity improvements are needed.*

Because providing bicycle access improvements is limited by available resources, it is important to make changes in an incremental manner - one that provides maximum benefits. Prioritizing potential improvements based on demand, and their ability to provide needed connections, will greatly assist with the construction of missing facilities that are needed to create a viable bicycle network.

Based on existing plans, input from cyclist surveys, and routes used by commuters for Bike to Work Day events, a preliminary listing of possible commuter bicycle links is presented in Appendix D. Detailed studies must be completed before the County can give any consideration to approving these roads as official bicycle routes. These studies shall take into account whether the creation of a bike lane will effect unique or scenic characteristics or special natural features of an area.

Implementation Strategies

1. Identify roadways where bike route improvements are needed to link major employment and population centers and prioritize funding for these segments.
2. Coordinate closely with the State Highway Administration on highway projects to ensure that plans address the needs of Harford County bicyclists.
3. Work with the State and the East Coast Greenways to provide adequate facilities along the designated East Coast Greenway route.
4. Apply for State and Federal grants to create and upgrade bicycle facilities throughout the County.
5. Seek capital project funding in cooperation with non-profit bike and pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct and maintain bike facilities.

Bicycle Policy 3: *Expand education and outreach programs for bicycle safety.*

A major obstacle with implementing a plan that involves bicycles sharing the road with motor vehicles is safety and proper education for everyone involved. Providing signage is not enough to address safety issues. Continuing educational programs for drivers and cyclists is also important. Bike mentor programs can help commuting cyclists, as well as recreational riders, make the transition from car to bike.

Implementation Strategies

1. Continue to support and promote Bike to Work Day, the Bike Mentor Program, and other bike safety initiatives presented by the Office of Community Services.
2. Work with the Baltimore Metropolitan Council to create an educational campaign featuring pamphlets, signs, and advertisements directed both at motorists and bicyclists about safely using the roadway system.
3. Work with One Less Car and cycling organizations to provide training sessions for cyclists.
4. Develop a Harford County bike map.

Pedestrian Network

Goal: *Implement a network of pedestrian facilities in the County to enhance and promote walking as an alternative to automotive use.*



Pedestrian friendly communities are an important part of an efficient multi-modal transportation network. Walking provides physical benefits while also serving to reduce vehicle trips and building a sense of community. People, however, typically only use walking as a mode of transportation when there is a safe designated space, and their destination is close by, often no more than a quarter mile away.

In the municipalities, sidewalks generally follow a grid pattern and provide connectivity to the municipal center. Information about existing and planned pedestrian facilities is included in each of their Comprehensive Plans. Outside of these areas, sidewalks are generally designed to serve localized community needs. In order to enhance the walkability of communities within the County, it is necessary to identify where additional sections of walkways are needed as well as where improvements to existing sidewalks and crosswalks are needed. Consideration should be given to providing linkages to transit and rail. Appendix E includes a list and map of some potential sidewalk segments, but a detailed study needs to be conducted to prioritize projects and identify any other needed components.

Pedestrian Policy 1: *Improve the connectivity of the pedestrian network in the County.*

Planning for pedestrian mobility must be integrated with land use and highway design. Accommodations must include sidewalk networks, safe and convenient intersection designs, and traffic calming measures that are also conducive to pedestrian activity. As the Development Envelope continues to build out, attention must be paid to completing the missing links for sidewalks and trails. This can include some established residential and commercial areas that were developed prior to the requirement of sidewalks, and sections along major transportation corridors.



Implementation Strategies

1. Establish an inventory of sidewalks in the County and identify missing links or areas where sidewalks are needed.
2. Prioritize locations that have the greatest need for new or re-constructed sidewalks to create pedestrian links.
3. Incorporate sidewalk facilities in all appropriate road improvement projects and residential and commercial approved projects.
4. Coordinate with State Highways and the Department of Public Works to improve pedestrian crossings at major roadway intersections through retiming of the signals and the redesign of pedestrian movements through the intersection.
5. Provide pedestrian access and intersection improvements at all transit stops.
6. Seek capital project funding in cooperation with non-profit pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct identified “missing links” by 2015.
7. Declare becoming a Healthy Harford a goal and work with Upper Chesapeake-University of Maryland hospital system, Aberdeen Proving Ground major and minor employers to promote the social and economic benefits of walking.
8. Establish bike/pedestrian advisory board.

Pedestrian Policy 2: *Utilize the Safe Routes to School Program to improve the pedestrian network.*



Safe Routes to School is a Federal program administered by the U.S. Department of Transportation’s Federal Highway Administration. The program is designed to help local jurisdictions make infrastructure improvements that enhance pedestrian and bicycle safety within two miles of elementary or middle schools. The goal is to make walking to school a safer and more appealing transportation option, while encouraging children and their parents to participate in a more active and healthy lifestyle. The implementation of Safe Routes to School projects will also help to decrease traffic, fuel consumption, and air pollution.

Implementation Strategies

1. Work with the Sheriff's Department, the Board of Education, the municipalities, and all other appropriate agencies to implement a Safe Routes to School program for all schools.
2. Evaluate the pedestrian and bicycle infrastructure near and leading to Harford County high schools.
3. Encourage schools to provide educational programs that support walking and its health benefits.
4. Continue to seek funding for the Safe Routes to School Program.
5. Support and promote the annual International Walk to School Day.

Trails Network

Goal: Continue to support the development of trail networks as part of the County's transportation network.

While trails and greenways are predominately used for recreation, they can also be part of the transportation network. Harford County has several popular trail systems (Figure 12). The Department of Parks and Recreation oversees 17 trails, but most of these are small local trails that are designed for recreational purposes. Others such as the Ma & Pa Heritage Corridor connect different areas of the County and have the potential to be utilized as part of the County's transportation network.

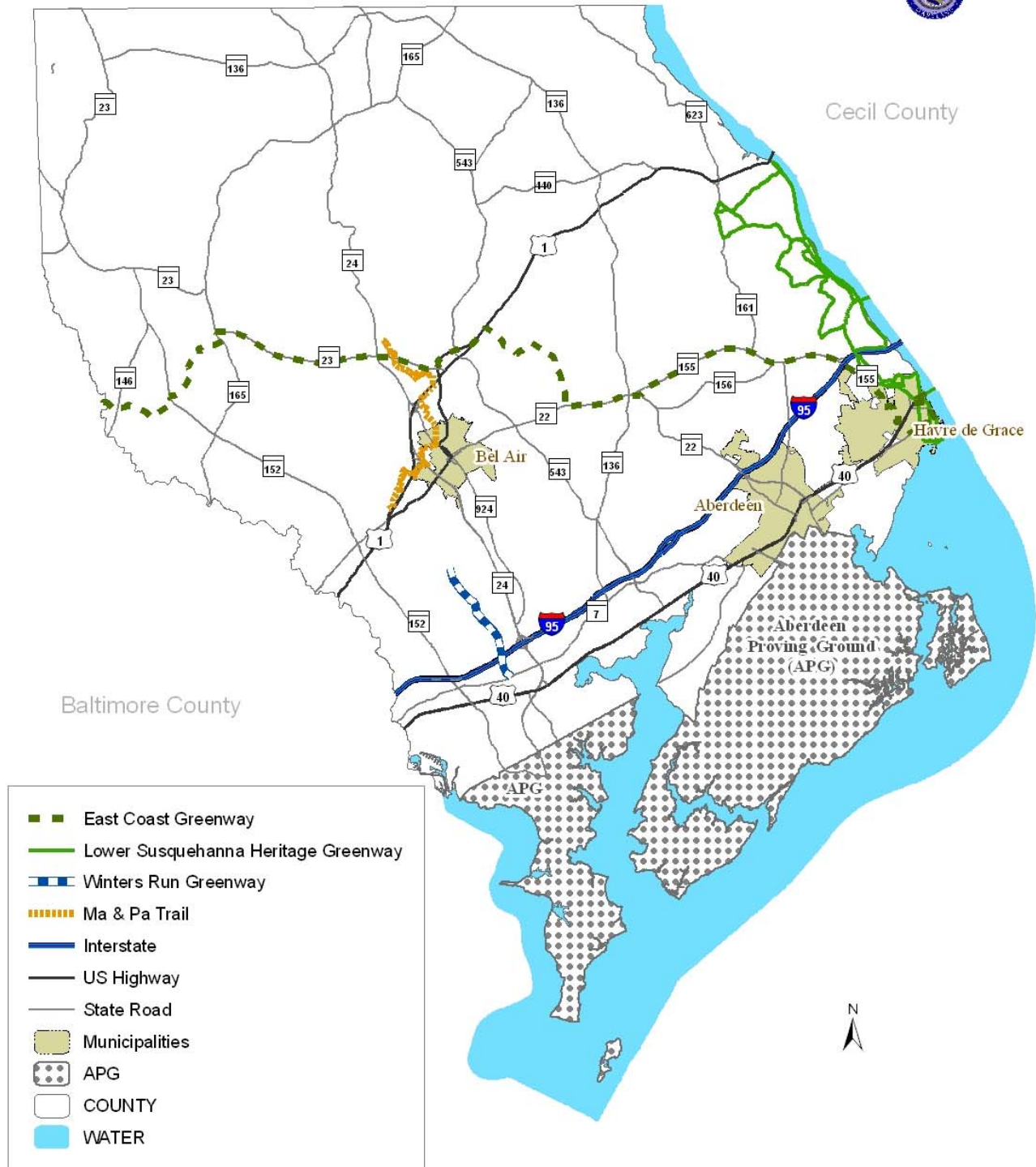
The Ma & Pa Heritage Corridor is composed of three segments that connect Bel Air with Forest Hill. Beginning at Edgeley Grove Park, the trail joins the Bel Air segment at Heavenly Waters Park and continues to Williams Street in downtown Bel Air. Another segment begins at Blake's Venture on Melrose Lane and ends at Friends Park in Forest Hill. A connection between the Williams Street and Melrose Lane trailheads is being planned. The County considers the connections of the Ma & Pa Heritage Corridor an important component of the Trails Network and will continue its efforts to complete these connections. Consideration is also being given to expanding the trail network in the Whiteford area.



The Bynum Run/Winters Run trail is a planned stream valley greenway in the southwestern portion of the County. The first section, south of Interstate 95, is completed. The section north of I-95 is slated for funding in the 2010-2015 Capital Improvement Program budgets. The location of this segment of the Winters Run trail, which will circumvent the I-95/MD Route 24 interchange, makes it a strong candidate as an alternative bicycle commuting route to Aberdeen Proving Ground and the Chesapeake Science and Security Corridor.

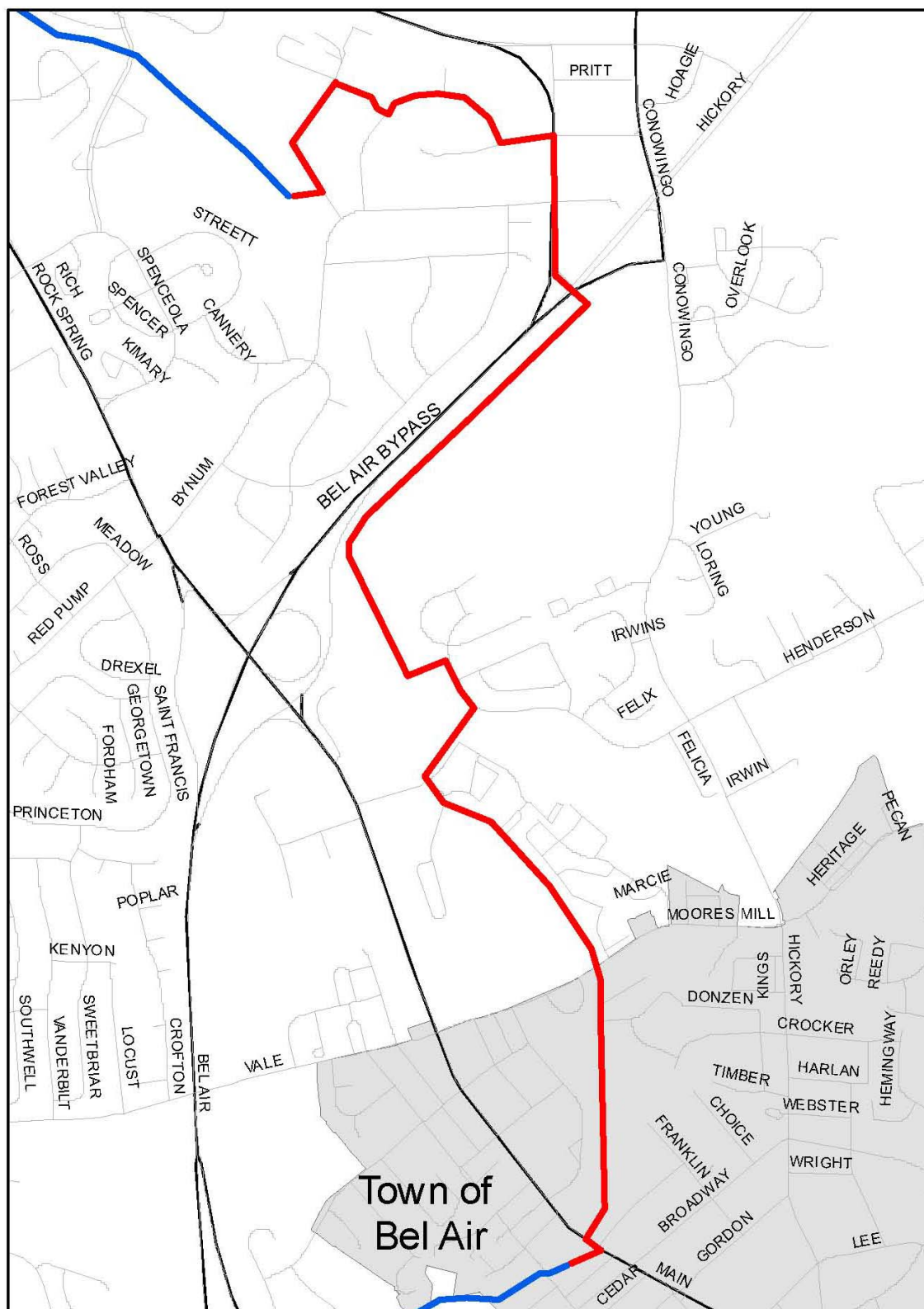
The Lower Susquehanna Heritage Greenway includes 23 miles of existing non-contiguous trails that traverse the Lower Susquehanna River into the Chesapeake Bay through pristine nature and small towns in both Harford and Cecil Counties. Designated as a certified Maryland Heritage Area, this trail project is managed by a non-profit organization and plans to construct an additional 14 miles of multi-purpose trails with a goal of providing a pedestrian river crossing. Four major sections of the existing trail in Harford County include a multi-purpose section from the Conowingo Dam to the Mill at Rock Run in Susquehanna State Park. Another section is in the North Park section of Havre de Grace and is known as the “Joe K” loop, named for its long-time caretaker Councilman Joe Kochenderfer. Various parts of the City’s signature sidewalk and Lafayette trail weave through the business district and lead to The Promenade. This shore-line boardwalk around the Museums district is the signature segment of the Lower Susquehanna Heritage Greenway. Yet another segment of trail exists at Swan Harbor Farm south of Havre de Grace.

Another major trail component passing through Harford County is the East Coast Greenway. The East Coast Greenway Trail Network is a multi-user trail network connecting urban centers along the East Coast of the United States. The trail will extend from Canada to Key West. This greenway route will consist of a series of locally managed segments. In Harford County, the proposed East Coast Greenway Trail will travel from the Susquehanna River at US Route 40, then up along the river utilizing part of the LSHG trail network before going west across the County to connect with the Torrey Brown Trail in Baltimore County.



Existing and Proposed Trail Networks

Harford County, Maryland



Ma & Pa Heritage
Corridor Trail
Proposed Connection

Existing trail

Proposed trail

Figure 12A

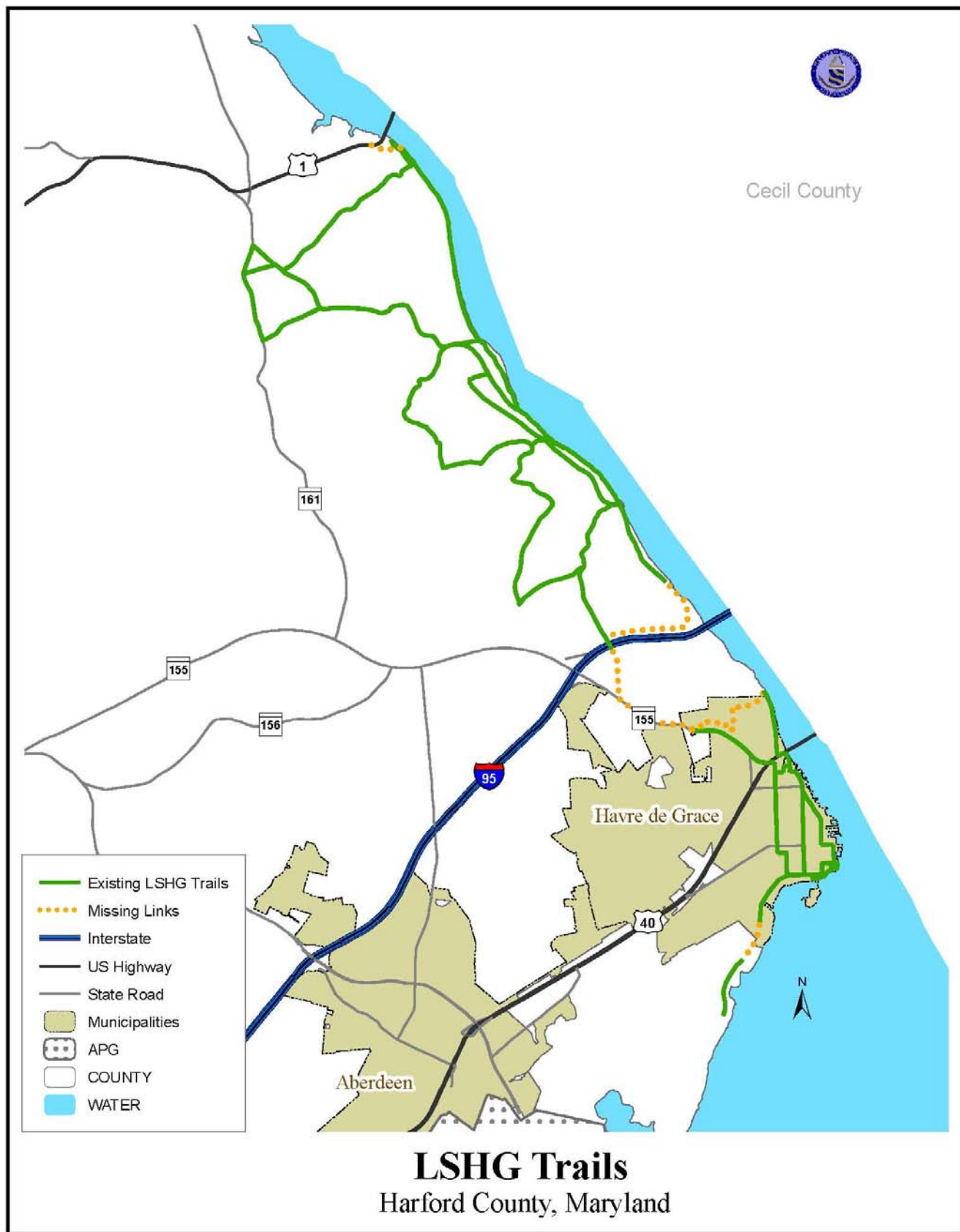


Figure 12B

Trail Policy 1: *Ensure that appropriate trail segments are incorporated into the non-motorized transportation network.*

While trails are most often used for recreation, they may also serve as important links in a non-motorized transportation network. Harford County has a growing trail network. Proposed additions to these trails have the potential to provide County residents with off road linkages that will connect to employment and service centers as well as transit. Consideration must be given to acquisition procedures for future trail segments, along with the provision of trailheads, amenities, and signage. The marketing of the County's trail network should also be expanded to promote the multiple values of the trail networks.

Implementation Strategies

1. Recognize trails as a viable transportation facility by incorporating the construction and maintenance of trails into the Capital Improvement Program.
2. Identify opportunities to coordinate trail crossings with proposed road improvements.
3. Work with the Department of Parks and Recreation and the Maryland Department of Natural Resources to design future trails for the recreational user and the daily commuter whenever possible.
4. Where possible, link trail networks to the bicycle and pedestrian street network to provide connectivity.
5. Require that adequate area is set aside for trail segments in development and redevelopment projects that include planned trail alignments.
6. Provide adequate amenities and signage throughout the trail networks.

Trail Policy 2: *Strengthen the public/private partnerships responsible for trail systems.*

While the majority of trails in the County are under the purview of the Department of Parks and Recreation and the Maryland Department of Natural Resources, there are also several public/private partnerships that play an important role in trail development and management. Keeping these partnerships viable is an important component of maintaining and promoting a trail network.

Implementation Strategies

1. Continue to support the public/private partnerships associated with the designated trail systems.
2. Market the County's trail system as a tool for community health and economic growth for small businesses.
3. Dedicate a portion of the Open Space fee-in-lieu for trail construction and improvements.
4. Seek capital project funding in cooperation with non-profit pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct identified "missing links" by 2015.

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Transit, Commuter Rail and Transportation Demand Management

Residents of Harford County can utilize transit, MARC service, and the County's Commuter Assistance Program as alternatives to the single occupant vehicle (SOV). In Harford County, local bus service is provided by Harford Transit (HT), and the Maryland Transit Administration's (MTA) Commuter Service provides service to the Baltimore area.



Harford Transit provides a variety of services to residents. It is a public transit system that operates nine fixed routes serving major employment and shopping centers (Figure 13). The routes come together at various locations called hubs, and allow for transfers between routes. Hours vary by route; with the majority of the weekday service being available between 6 AM and 7PM. Saturday service is planned for some of the routes.

Harford Transit also operates a demand response service for the elderly and disabled and a paratransit service. This demand response service provides travel assistance from a resident's home to locations within the County for medical appointments, shopping, and other basic needs.

Harford Transit has recently completed an update of its mandated Transit Development Plan. This plan provides strategies to improve the quality and quantity of the service, and it proposes a new marketing program. The proposed marketing program will help Harford Transit change its image – promoting it as a service that provides a viable transportation option for County residents.

Because local transit service is concentrated within the Development Envelope, Harford County is also looking at options for meeting the needs of a growing senior community residing in the rural areas. Working with local community groups, the Department of Community Services is exploring options for a volunteer rideshare program. Based on national programs, the service would be run by local community organizations and would be designed to serve neighbor to neighbor needs.

MTA operates three commuter bus lines into Baltimore. The 410 and 411 lines serve the Bel Air area with two additional stops along Route 152 at the Park and Ride lot located at Cheyenne and the lot just north of MD Route 147. The 420 line serves the Route 40 corridor beginning in Havre de Grace. MTA service is available Monday through Friday but only for the morning commute into the city. A reverse commute service from Baltimore to Harford County is offered for the evening commute (Figure 14).

The County also has two MARC stations located in Aberdeen and Edgewood. Early morning MARC rail service is available to Baltimore and Washington, D.C. with reverse service during the evening rush hours. There is also one midday trip both north and south bound. No weekend service is available.

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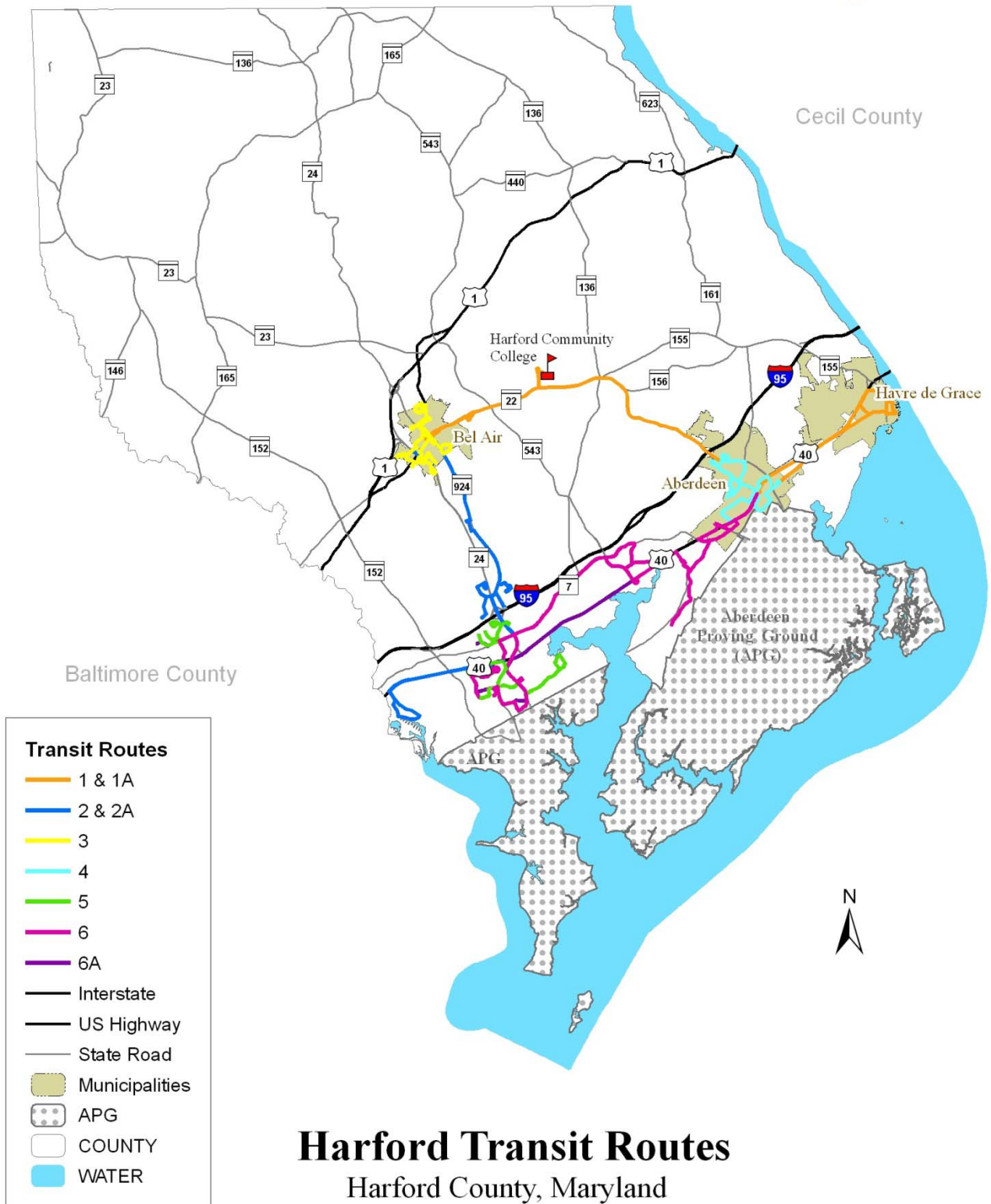
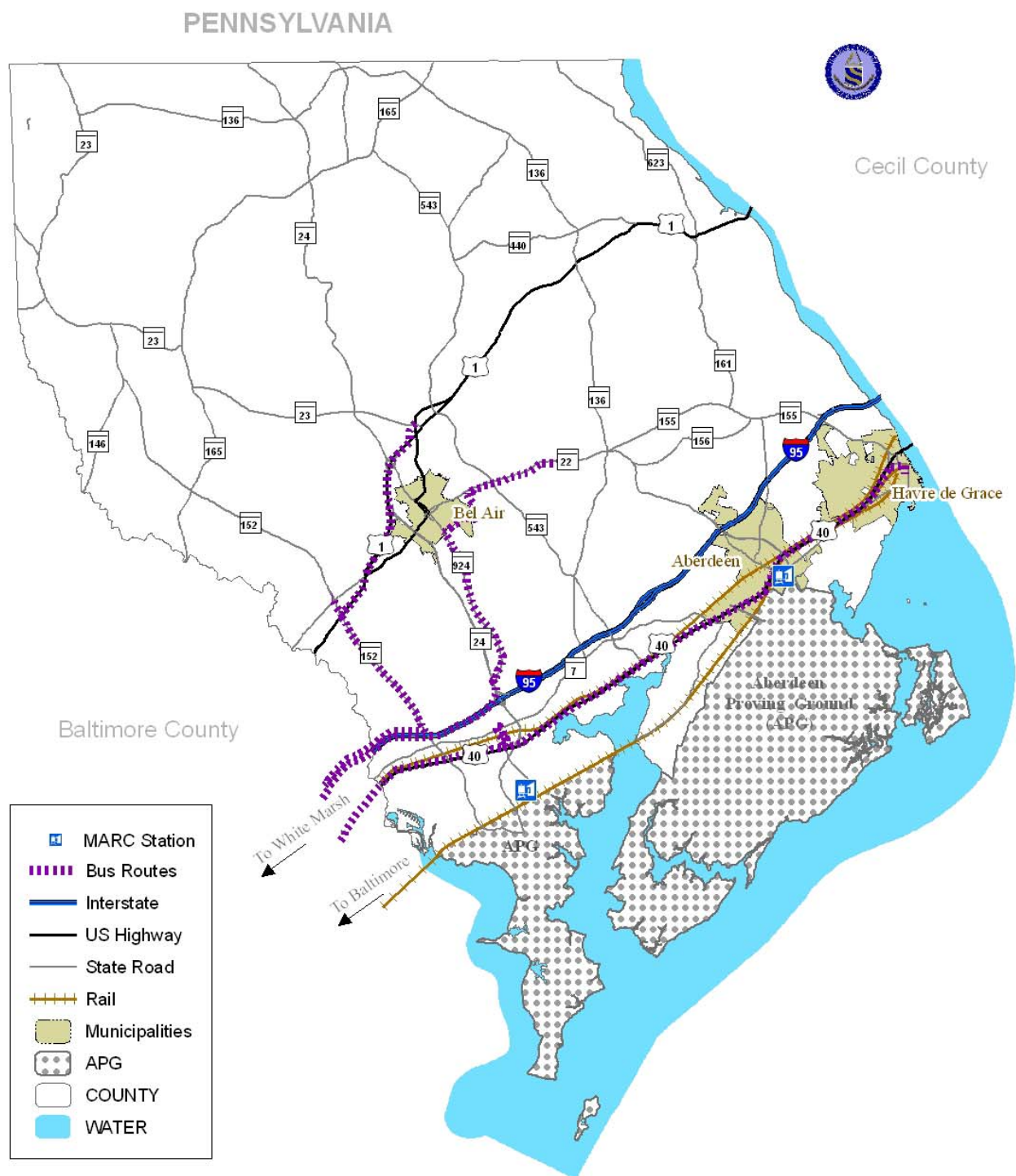


Figure 13



MTA Express Bus Routes and MARC Stations
Harford County, Maryland

AMTRAK's Northeast Corridor trains also provide service to the Aberdeen Rail Station directly and through an operating agreement with the Maryland Transit Administration. Service available at the Aberdeen Station includes six northbound trips and seven southbound trips between the hours of 4 AM and 10 PM. Through a cross-honoring agreement with MTA, AMTRAK allows monthly and weekly MARC ticket holders to use designated AMTRAK trains for travel to Baltimore and Washington D.C.



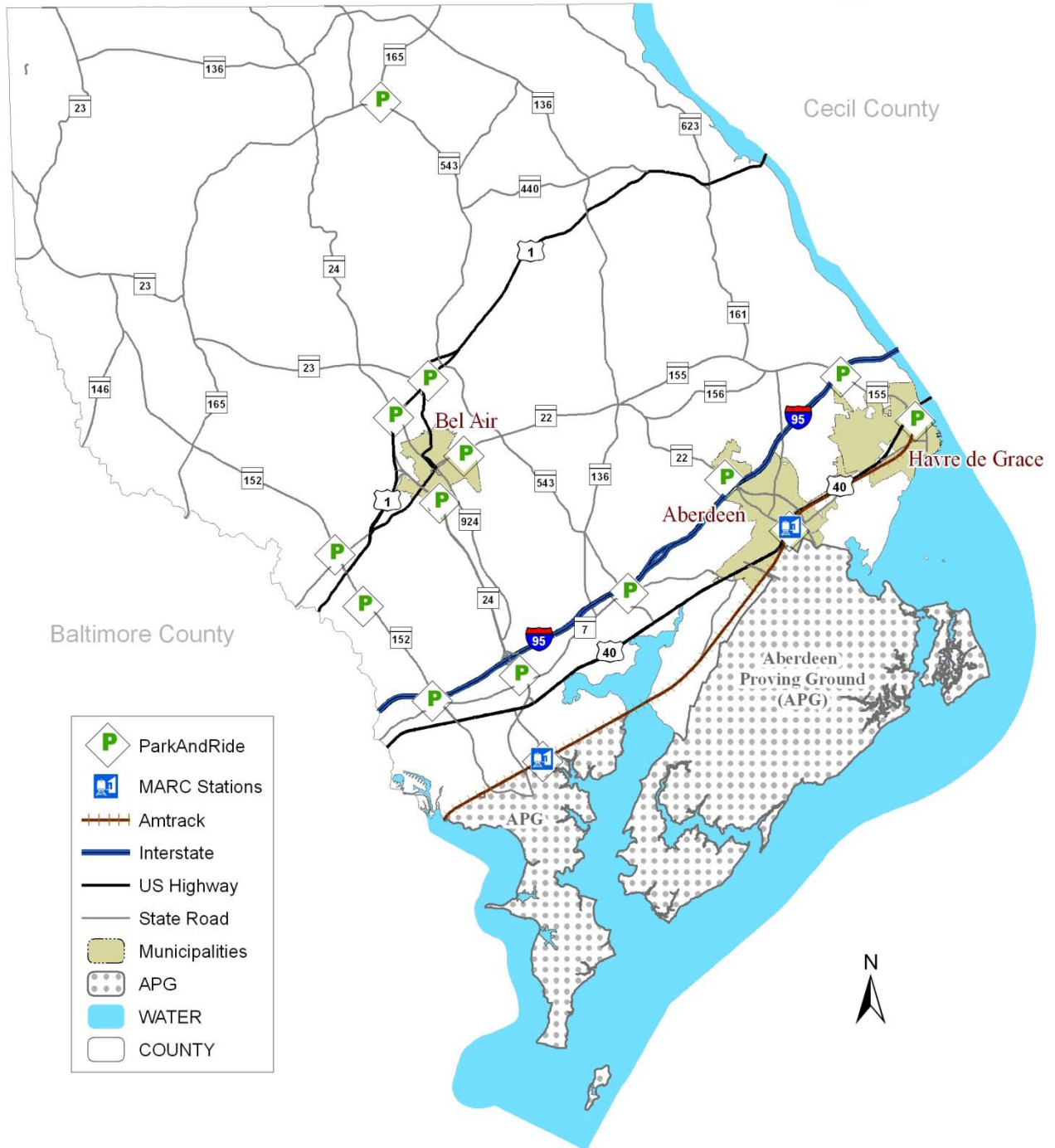
The facilities at both MARC stops are in need of improvement. Increasing ridership on these lines has resulted in parking issues at both stations. Plans have been developed to improve the Edgewood station by adding an open shelter, platform improvements and increasing ADA parking. Overall traffic patterns at the site will be redesigned to improve circulation patterns and accommodate transit service. The Maryland Transit Administration is also looking at potential improvements to the existing station in Aberdeen or the possibility of establishing a new multimodal station. In the interim, additional parking will be provided at the Aberdeen MARC station. This expansion is scheduled for completion in 2012.

In addition to transit and rail service, Harford commuters have the option of participating in carpools and van pools. Through the Harford Commuter Assistance Program, commuters can sign up for ride matching services. The Commuter Assistance Program maintains a database of commuters interested in sharing rides throughout the Maryland, the District of Columbia (D.C), and Virginia area. The program matches riders based on location and hours of employment. Participants working in the D.C., Virginia, and the surrounding Maryland counties area are eligible to participate in the emergency ride home program.

The County also has 15 Park and Ride lots (Figure 15). Two of these are associated with the MARC stations at Aberdeen and Edgewood, and six offer MTA commuter transit stops. Annual use surveys indicate that utilization of the Park and Ride lots has continued to grow. As part of the I-95 Section 200 project, one Park and Ride lot is proposed for relocation and another lot will be added in the MD 24/924 corridor.

One of the keys to increasing the use of transit and rail involves improving accessibility. Utilization of these options is likely to succeed if population, employment centers, or other destinations are connected and are within walking distance of the transit or rail stop. Establishing land use patterns to support a population base of potential riders, while also providing destinations around existing or future service routes, would help to increase ridership and reduce the number of users who are auto dependent.

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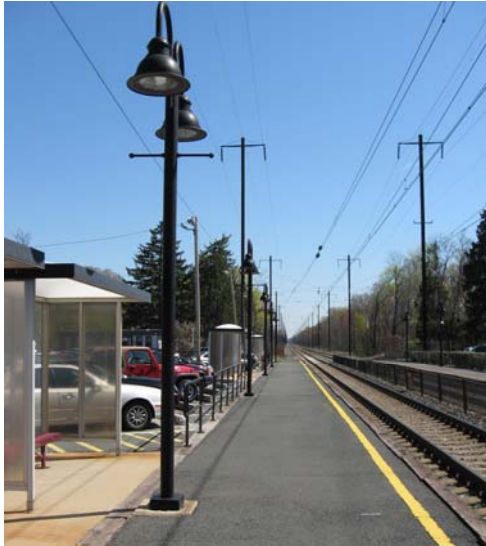


Park & Ride and MARC Commuter Lots Harford County, Maryland

Figure 15

Transit and Commuter Rail

Goal: Provide efficient and convenient transit and rail services that address local and regional needs.



Existing transit and MARC services provide opportunity for travel both within the County and to the Baltimore/Washington metropolitan region. This service, provided by Harford Transit and the Maryland Transit Administration, needs to be expanded to meet the needs of a changing population base and to help alleviate roadway congestion. Commuter service to the Baltimore/Washington region is frequently at or near capacity, and parking at MARC stations is challenging. The lack of midday rail and transit service, to and from the Baltimore/Washington area, continues to discourage many from using the service.

Local transit service, which serves predominately the Route 40 and MD 24 corridor and the municipalities within the Development Envelope, needs to be expanded before it can be considered a viable transportation option for all residents. Utilization of the current service is growing, but route times are still too long and do not reach enough areas to serve the needs of most citizens. Commuter bus service to Baltimore also needs to be expanded to encourage additional ridership, and to provide connectivity with adjoining jurisdictions especially as it relates to BRAC. Providing additional parking for bus commuters must also be addressed as many commuters now utilize on street parking.

Transit and Commuter Rail Policy 1:

Continue to improve and expand the service provided by Harford Transit.

In order for local transit service to be a viable option, the transit service in Harford County needs to be expanded. Longer hours of operation, more frequent service, and direct routes that connect employment and commercial centers to residential areas are needed.

Implementation Strategies

1. Implement the recommendations provided in the 2008 Harford Transit Development Plan.
2. Work with regional partners to identify, fund, and implement transit service that will connect Harford and Cecil routes.
3. Continue to coordinate with Aberdeen Proving Ground to establish a Park and Ride express bus route that exclusively serves the facility.
4. Work with Harford Community College to improve transit service and increase ridership.
5. Provide signage and shelters at designated transit stops.
6. Continue to promote transit as a viable alternative through advertising and other marketing initiatives.

Transit and Commuter Rail Policy 2:

Expand Maryland Transit Administration commuter bus service.

Once the early morning commute hours have passed, transit options to the Baltimore metropolitan area are nonexistent. Evening buses leaving Harford County to pick up commuters in Baltimore do not carry passengers. Opportunities to expand and improve service should be investigated to include coordinating these bus departure times with shift schedules for major employers in the Baltimore region. Also commuter bus service to APG, and the establishment of dedicated bus lanes should be pursued. Regional coordination between economic development offices and MTA should be undertaken to identify possible schedule and route improvements.

Implementation Strategies

1. Work with MTA to add additional buses to the existing routes and to provide midday service to and from Baltimore.
2. Work with MTA to establish an I-95 commuter bus route that utilizes park and ride lots along the corridor.
3. Work with MTA to establish express bus service to Aberdeen Proving Ground.
4. Ensure connectivity between Harford Transit and MTA commuter routes.
5. Establish a reverse commute route that connects locations in the Baltimore metropolitan region with Aberdeen Proving Ground.
6. Work with the Baltimore Metropolitan Council and MTA to establish a guaranteed ride home program for transit commuters working in Harford County, Baltimore City and Baltimore County.

Transit and Commuter Rail Policy 3:

Expand MARC service and facilities.

MARC service is a popular option for commuters working in the Washington D.C./Virginia area but current service is overcrowded and is limited mainly to peak commuting hours. To support an overall sustainable transportation plan and to address the anticipated increase in commuting trips associated with BRAC, improvements to the MARC service must be provided.

Implementation Strategies

1. Continue to support the MARC Growth and Investment Plan.
2. Continue to work with the Maryland Transit Administration to establish additional MARC routes to provide midday, weekend, and reverse commute service.
3. Support the construction of a multi-modal facility in Aberdeen and improvements to the Edgewood station.
4. Establish transit connections to the MARC stations.
5. Provide needed parking and improve access at existing stations.

Transit and Commuter Rail Policy 4:

Support the development of land use patterns that facilitate transit and rail use.

Land use patterns should enhance the viability and usership of alternative transportation options. With the County's designated growth areas, existing designations for high intensity land use exist, but these designations are spread out and some are not served by transit service. Changes to the Land Use Element Plan should be considered to locate higher intensity and mixed use developments in areas served, or planned for service by transit. Most users of local transit service need to have both their start and end destinations within walking distance of a transit stop before they consider the service as feasible.

Implementation Strategies

1. Evaluate and adjust the Land Use Plan designations and policies to support transit and rail service as part of the next Land Use Plan update.
2. Consider the creation of a transit overlay district that would provide for increased densities, mixed uses, and connectivity to identified transit stops.
3. Ensure that new development and redevelopment activity are designed to accommodate transit where appropriate.

Transportation Demand Management

Goal: Develop and implement a comprehensive Transportation Demand Management program.



Transportation Demand Management (TDM), also known as Mobility Management, encompasses strategies intended to increase transportation system efficiency. It emphasizes the movement of people and goods, rather than motor vehicles, and gives priority to public transit, ridesharing and non-motorized travel as well as other programs such as flex time and telecommuting which impact the number of commuters. TDM strategies are designed to reduce total vehicle traffic or total vehicle miles traveled while also benefiting air quality and personal quality of life. Transportation Demand Management is also emerging as a component of the LEED (Leadership in Energy and Environmental Design) Certification Program by helping businesses establish sustainable sites that offer smart transportation options.

While Harford County has a strong Commuter Assistance Program, an emerging transit system, and programs and regulations to support pedestrian and bicycle commuting, there are still elements lacking for a comprehensive Transportation Demand Management Program. Many strategies included in successful TDM programs involve cooperation between multiple groups including employees and local government.

Increasing awareness about the various components of a TDM program is also needed. Employers and employees need to be aware of the options that are available and how these options can be incorporated into the planning of new facilities. Many TDM programs provide reduce parking requirements or provide other site development bonuses for providing components of a TDM program including flex time and telecommuting. While a TDM program can offer benefits countywide, a special emphasis should be placed on promoting its use within the Chesapeake Science and Security Corridor, especially in the BRAC zone and around MARC stations (Figure 16).

TDM Policy 1: *Expand the scope of the County's Transportation Demand Management Program to include elements contained in successful programs.*

The key to a successful TDM program involves using a wide array of TDM policies, and having a program that meets the needs of the area while remaining flexible and open to change as travel demand problems evolve. Facilities that support components of a TDM program need to be incorporated into capital projects, and the development review process should be designed to provide incentives to projects that incorporate TDM options into the design and operation of their facilities.

It also requires the cooperation of the private sector, the community and government. In Harford County this cooperation occurs through the Transportation Management Association (TMA). TMA members serve as advocates for convenient, effective, and efficient transportation.

Implementation Strategies

1. Study effectively implemented TDM programs and identify components suited for Harford County.
2. Work with the appropriate County departments, the Board of Education and the private sector to implement new TDM elements.
3. Support the siting and development of park and ride facilities in coordination with planned road projects.
4. Implement countywide commuter incentive programs for carpooling, vanpooling, transit, and guaranteed ride home programs.
5. Incorporate TDM options into the Transportation Impact Analysis process where appropriate.
6. Encourage the use of TDM options within the Chesapeake Science and Security Corridor, the BRAC zone, and surrounding the MARC stations.

TDM Policy 2: *Expand the TDM marketing program in both the private and public sectors.*

While Harford County has an active Transportation Management Association and a County program that promotes car pools, van pools, and transit, there is still a need to increase awareness about these programs and other TDM options. Outreach to existing and new companies is needed to increase their awareness of the benefits they can receive as employers as well as the benefits they can offer their employees. Educational outreach also needs to be extended to the schools because past experience has demonstrated that by educating young students, parents become active participants in the promoted initiatives.

Implementation Strategies

1. Continue to organize and facilitate employer transportation fairs.
2. Support the efforts of the Transportation Management Association to promote Transportation Demand Management Programs.
3. Work with property managers of multi-tenant buildings to coordinate and implement rideshare and transit programs.
4. Work with the Office of Economic Development to provide new employers with information on transportation options.
5. Continue to participate in regional activities that promote alternative transportation such as Bike to Work Day and Clean Commute Month.
6. Work with the Baltimore Metropolitan Council and other inter-regional bodies to determine the feasibility of creating a regional TDM program.
7. Work with the Board of Education to establish an educational program about environmentally sound commuting.

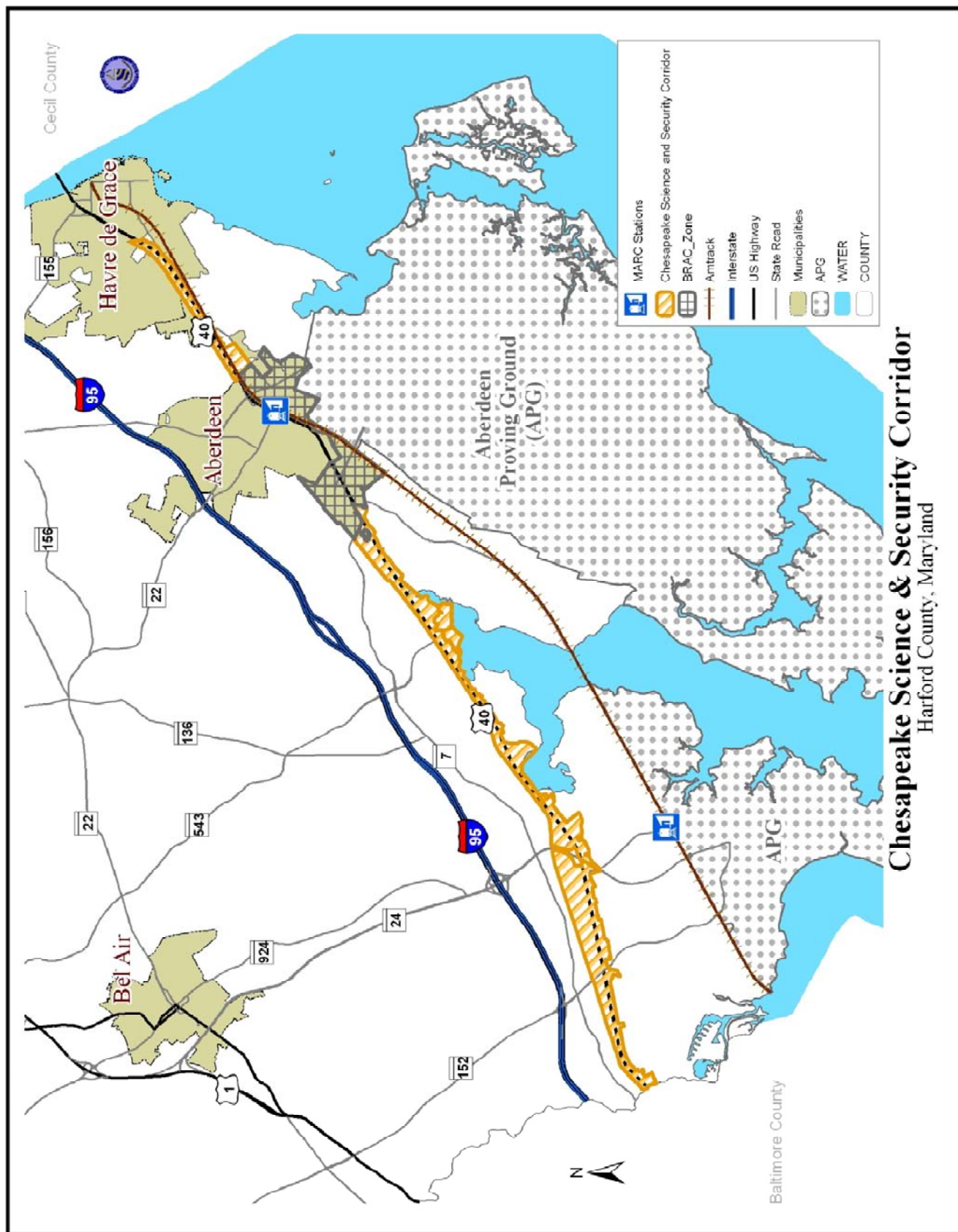


Figure 16

Aviation

Goal: Support efforts to make air travel a safe, attractive, efficient, and competitive mode of transportation for the citizens and business communities of Harford County.

Air service for freight and passenger transport continues to increase in importance. In today's global economy, the ability to move people and goods vast distances in a short amount of time is key to a location's success. As gas prices fluctuate and highway congestion continues to grow as a national concern, the demand for efficient and cost effective air travel increases. With the anticipated growth in population and employment associated with BRAC, demand for aviation facilities will likely increase even faster than previously anticipated. Currently the existing facilities in the County are small, and upgrades would be needed if services were expanded. Most air travelers use Baltimore/Washington International Thurgood Marshall Airport or Philadelphia International Airport to travel outside of this region.

Harford County aviation facilities include small airparks, a seaplane base and a larger military owned air base (Figure 17). Except for the military facility, all of the airparks are privately owned but available for public use. These airports are used primarily for recreational and instructional flying. Most of the aircraft are small privately owned planes.

Fallston Airport

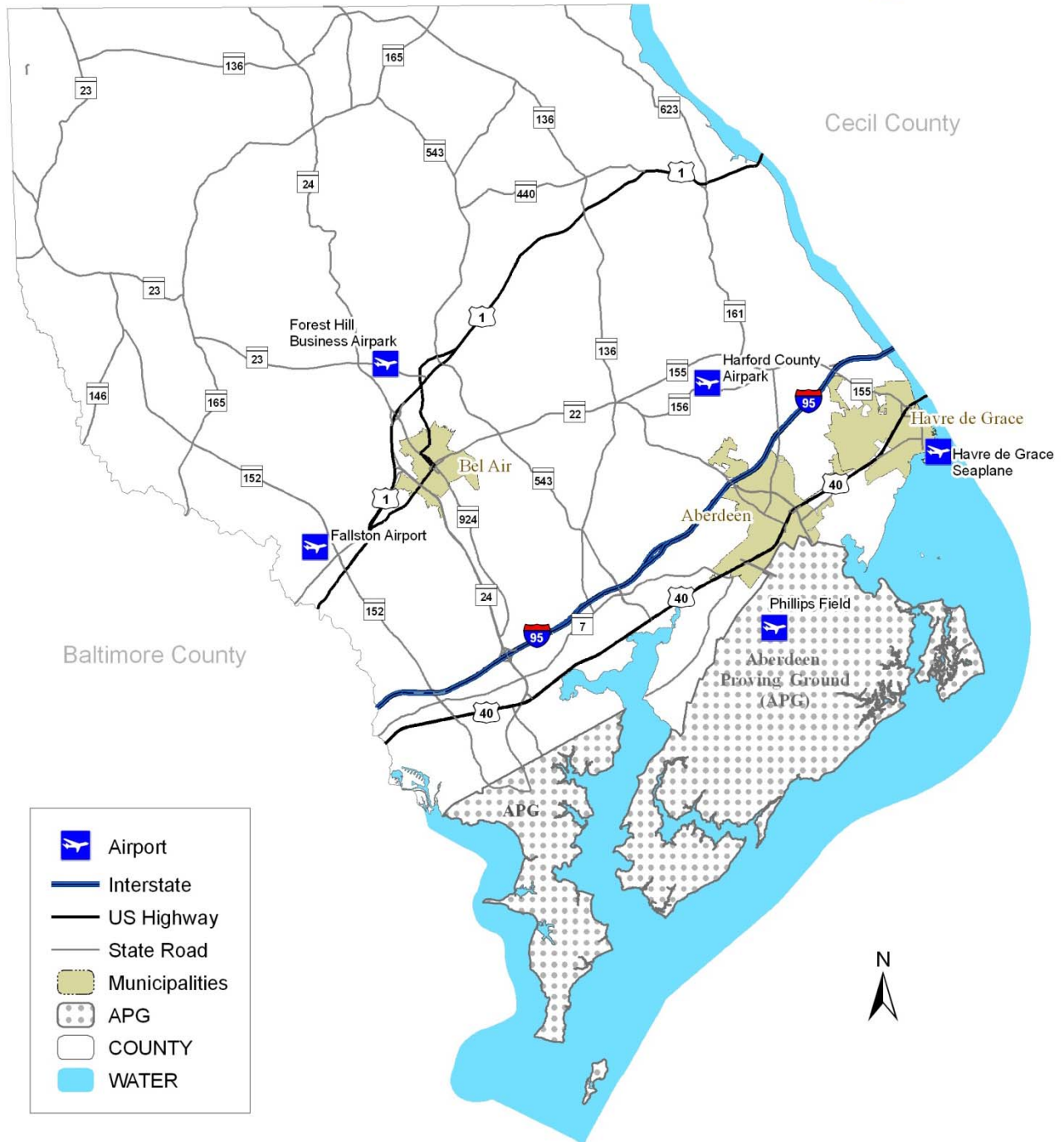
The Fallston airpark is a privately owned public use facility in western Harford County near the border with Baltimore County. The facility is south of Jarrettsville and west of Bel Air and is accessible from MD 152. The airport sits on approximately 20 acres and has one 2,200 by 50 foot runway. Some of the services provided by the airport include aircraft repair, rental and fueling. In 2007 the airport had 33 planes based there, all of which were single engine designs. This is down from the 42 planes based at the airport in 1995. On average, about 24 flight operations occur at the airport each day. About 65% of the traffic at the airport is local general aviation and recreation, 34% is general transit related aviation, and 1% is military use.

The current land uses in the vicinity of Fallston airport are agricultural and rural residential. There are no natural or man-made obstructions in the takeoff or landing paths of the current runway configuration allowing it to meet State standards. To the south of the airport, adjacent properties are currently in agricultural use, creating the possibility for expansion in the future. However, the property where the airport land is located is in a Maryland Agricultural District, limiting the ability for expansion and construction at the site unless the district designation is removed.

Forest Hill Business Airpark

This is a private facility, owned and operated by an association of the tenants at the Forest Hill Industrial Park. A pre-approved permit is required to take off or land at this facility therefore limiting its usage almost exclusively to parties associated with the industrial park tenants. The airpark is located along Jarrettsville Road between MD 24 and US Route 1 in the central part of the County. In 2007, there were 20 aircraft based at the airpark, 15 were single engine planes, three were multi engine planes, and two were helicopters.

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Air Fields and Landing Strips Harford County, Maryland

Figure 17

There are multiple structural obstacles that would impede possible expansion of this airpark including infrastructure and industrial and commercial buildings. The 2004 Land Use Element Plan identifies the land surrounding the airpark for industrial and commercial purposes, further constraining the ability for this facility to expand. Extensive modifications would have to occur before the Maryland Aviation Administration would license this airpark for public use.

Harford County Airport (Aldino)



The Harford County Airport near Churchville, also sometimes referred to as the Aldino Airport, is a privately owned public use airport in the eastern portion of the County. This airport is strategically located in a rural area within close proximity to the County's three municipalities Aberdeen, Bel Air, and Havre de Grace. The airport is easily accessible from MD 155 and MD 156, and is located within three miles of

the interchange with I-95 and MD 22 in Aberdeen. As of 2007, there were 63 planes based at this airport, an increase of eight from the number there in 1995. Of the 63 planes, 55 were single engine planes, six were gliders and two were ultralight planes. The airport averages 96 operations a day with 80% of the activity at the airpark for local general aviation and recreation, and the remaining 20% is for transit related activities. Currently the airport has a 2,140 by 40-foot asphalt runway and low intensity runway lights and another 1,600 foot turf runway. Activities at the airport include aircraft repair, aircraft rental, fueling, and flight instruction.

The current land uses in the vicinity of this airport are agricultural, residential and some small businesses. There are no man-made or natural obstructions in the flight path of planes using the airport, and the 2004 Land Use Element Plan recommends keeping the area around the airport rural in character. Usage at this airport is predicted to continue to increase as the residential and business populations continue to increase in the nearby jurisdictions.

Havre de Grace Seaplane Base

The seaplane base, with its ground building in the City of Havre de Grace and its runway space off shore in the Chesapeake Bay, is a unique facility in Harford County. The base is listed as having two accepted runways, each 2,000 x 200 feet in dimension, one oriented north/south and the other east/west. The privately owned facility has been in operation since 1987 and is currently owned by the Seaplane Base Development Group out of Falls Church, Virginia. The base is operational from May through November with a floating dock extended for plane docking. Some minor repairs are available at the facility. During 2007, the facility averaged 20

operations per month, about two thirds of which were for general aviation and recreation and one third for transportation activities. Currently only two aircraft are based at this facility, one single engine plane and one ultralight helicopter.

Philips Army Airfield (Aberdeen Proving Ground)

This airport is owned and used by the United States Military. It is located south of the City of Aberdeen, on the Aberdeen Proving Ground. Consideration has been given in the past to opening this airport to commercial use, but security concerns have kept it private. Other concerns regarding nearby residential areas have played a roll in restricting the number of flights operating from the facility, and would greatly hinder expansion plans.

Aviation Policy 1: *Improve accessibility to existing regional and local aviation facilities.*

Realizing that air travel is continuing to grow in importance, getting citizens and business travelers to facilities that meet their needs is important in sustaining economic growth in the County. The existing aviation facilities within Harford County are predominately designed to serve the needs of recreational pilots and private operators. They do not meet the needs of most air patrons who travel to the closest regional facility (Baltimore/Washington International Thurgood Marshall Airport –BWI) that is 39 miles away.

Parking at a regional airport can be expensive, and the only other options for County residents or business travelers are a taxi or private shuttle services. Direct transit or light rail service to BWI or Philadelphia International airports are not locally available. Coordination with the Maryland Transit Administration is needed to expand transit options via bus or MARC service.

Implementation Strategies

1. Work with the Maryland Transit Administration to establish transit or MARC service between Harford County and regional airports such as BWI and Philadelphia International Airport.
2. Work with Harford Transit to determine if one or more of the existing County aviation facilities should be served with a transit stop.

Aviation Policy 2: *Improve the operations and capacity of airparks in Harford County.*

Serious consideration should be given to better utilizing existing facilities in Harford County through promotion and discussion of their possible expansion. Various County agencies, including the Department of Economic Development and the Department of Planning and Zoning, should consider working with the Maryland Aviation Authority and private airpark operators about possibly lengthening facility runways and increasing on site plane storage capacity. Larger airport facilities within the County could become a major asset by reducing the amount of travel to regional airports, plus it could help to bolster local economic growth.

Implementation Strategies

1. Encourage the use of aviation facilities to enhance economic development, where appropriate.
2. Evaluate the potential for public ownership or financial support of privately owned airports in the County.
3. Maintain the future viability of local airparks by ensuring that surrounding land uses are compatible.
4. Develop a marketing campaign that raises awareness of the County's existing facilities and their ability to serve as connectors to regional facilities.
5. Continue coordinating with the US Army and Aberdeen Proving Ground by providing technical assistance and implementation plans for possible joint use of Phillips Army Airfield for public commercial operation.

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Air Quality

GOAL: *Support transportation initiatives that help to protect and improve air quality.*

Harford County is part of the Baltimore Metropolitan Region, and as a member of the BMC, is collectively involved with regional air quality policies. The United States Environmental Protection Agency monitors six criteria pollutants, and the Baltimore area is listed as a nonattainment area for fine particulates and moderate nonattainment for ground level ozone. The region has made some recent improvements by being placed into a maintenance phase for carbon monoxide.

Both of the nonattainment pollutants noted above are major contributors to respiratory system distress and cardiovascular illness. While there are many sources of these pollutants, one of the major contributors of fine particulates and ground level ozone pollution is on-road transportation. Reductions can be made in pollution emissions in various ways including cleaner running vehicles, reducing vehicle miles traveled, and reducing the time spent running vehicles.

Air Quality Policy 1: *Increase the number of low emission and hybrid gas-electric vehicles in the County fleet.*



Replacing conventional vehicles in the County fleet with new hybrid engines will help lower emissions which is a step in improving air quality locally and in the region. Depending on long term repair expenses and trends in gas prices, having more hybrid vehicles may result in cost savings for the County.

Another cost effective way of reducing oxides of nitrogen (NOx) and particulate emissions into the atmosphere involves the retrofitting of diesel vehicles. Many of the technologies that exist require only

small adaptations to existing vehicles and can achieve 50-90% reductions in emissions, depending on the pollutant(s) being targeted and the technology used.

Several Federal programs are in place to help financially and physically assist in the retrofit process. Many other jurisdictions are using tax incentives to get private companies to comply, and are drafting contract requirements with new business partners to require clean diesel engines.

Implementation Strategies

1. Continue purchasing hybrid gas-electric vehicles when replacing vehicles within the County fleet.
2. Utilize grants, tax credits or other financial incentives available through the State and Federal government or private sector when purchasing new hybrid vehicles.
3. Design and implement a program for retrofitting diesel powered vehicles with cleaner lower emitting technologies.
4. Dedicate funds in the annual budget for diesel vehicle retrofit applications.
5. Apply annually for Congestion Management Air Quality (CMAQ) funds to retrofit County diesel vehicles.
6. Ensure that new diesel powered vehicles have built-in emissions control systems when replacing old diesel vehicles in the County fleet.

Air Quality Policy 2: *Continue to increase the public's awareness of the connection between vehicle use and air pollution.*

To achieve environmental sustainability, the County must continue to address the connection between vehicular travel and its impact on resources such as air quality. Surveys indicate that many users of transit and MARC service are aware of the State's air quality forecast and ozone alert system, but outreach must continue to operators of single occupant vehicles.

Implementation Strategies

1. Continue to work with the Baltimore Metropolitan Council to meet Federal air quality standards.
2. Continue to sponsor Clean Commute Month programs including Clean Car Clinics.
3. Encourage the use of alternative transportation methods to reduce vehicular emissions.
4. Continue to promote the use of carpools and vanpools to reduce the number of single occupant vehicles on the road.
5. Coordinate with the Board of Education and Harford Community College to develop programs regarding the connection between vehicle use and air quality.

Section III

IMPLEMENTATION

IMPLEMENTATION

The 2010 Transportation Element Plan establishes a series of policies and implementation strategies. The recommendations of the Transportation Plan include safety and capacity improvements to the highway system, improving the bicycle and pedestrian networks within the County, expanding upon transit opportunities, developing a comprehensive Transportation Demand Management (TDM) program, and helping to improve regional air quality. A work program has been assembled that prioritizes these initiatives and identifies the primary departments responsible for the implementation. Finally, each recommendation is identified based on it being a capital expenditure or not.

To help identify accountability and provide direction for the implementation of the Transportation Plan, an implementation matrix was developed based on the Plan strategies. Along with listing the responsible departments for policy implementation and noting which tasks involve capital investment, a priority for implementation is established. Three priority levels are used. Priority 1 strategies are to be addressed within two years of the adoption of this Plan, Priority 2 strategies shall be completed within six years of Plan adoption, and Priority 3 policies are efforts that must be addressed in an ongoing basis through the life of the Plan.

The following abbreviations are used in the “Responsibility” column of the Implementation Matrix.

ADMN	Harford County Administration	MTA	Maryland Transit Administration
BOE	Board of Education	MUN	Municipalities
BMC	Baltimore Metropolitan Council	OED	Office of Economic Development
DCS	Department of Community Services	P&R	Department of Parks and Recreation
DPW	Department of Public Works	P&Z	Department of Planning and Zoning
HCC	Harford Community College	SHA	State Highway Administration
HT	Harford Transit	SHO	Sheriff’s Office
EOC	Emergency Operations Center		

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
GOAL: Maintain a safe and adequate roadway network that enhances mobility, strengthens the economy, and protects the environment.			
<i>Highway Policy 1: Ensure that necessary highway improvements are funded, developed, managed, and maintained in an equitable and cost-effective manner.</i>			
1. Continue to ensure that land use and transportation decisions are linked so that land uses are supported by the appropriate types, levels and timing of transportation improvements.	3	DPW; MUN; P&Z	N
2. Plan, design, and maintain highway facilities in a manner that minimizes the life-cycle cost of the facilities while still providing high-quality service.	3	DPW; P&Z	Y
3. Evaluate the County's critical transportation facilities and systems to identify their vulnerability to projected sea level rise and damage from flooding and other weather events.	1	DPW; EOC; P&Z	N
4. Continue to participate in regional and State transportation planning efforts to ensure that Harford County's transportation needs are addressed in regional and State plans.	3	DPW; SHA; BMC; P&Z	N
5. Continue to coordinate with the municipalities on land use and transportation projects to address local transportation needs.	3	DPW; MUN; P&Z	N
6. Evaluate the benefit of enacting impact fees for roadway improvements.	1	DPW; P&Z	N
7. Continue to work with MdTa and SHA to maintain the functionality and safety of regionally significant bridge facilities, while also addressing multimodal opportunities.	3	P&Z; DPW; SHA; MdTa	N
<i>Highway Policy 2: Ensure that roadways suit the character of the community.</i>			
1. Design, construct, and maintain roadways to be consistent with the character of the community they serve.	3	DPW; P&Z	Y

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
2. Reduce the impact of traffic on existing communities through lower speed limits or the implementation of traffic calming and other measures .	3	DPW; SHA	Y
3. Maintain unpaved rural roads in their current condition except for improvements needed for safety or to handle increased traffic volumes due to by-right or special exception development.	3	DPW	Y
4. Use Maryland Scenic Byway Design Guidelines when planning road improvements on all designated Scenic Byways and local roads abutting designated Scenic Byways	3	DPW; SHA; P&Z	N
5. Ensure that road design and maintenance standards protect, preserve, and when physically and financially possible enhance local, State and National Historic Landmarks and Districts and/or designated Rural Villages.	1	DPW; SHA	N
6. Design plans for road improvement projects should strive for compatibility between the road's purpose and the overall surrounding community, with special consideration for rural character and aesthetic beauty.	1	DPW; SHA	N
7. When viable, Context Sensitive Solutions (CSS), which represent a comprehensive approach to transportation planning by uniting public and private interests, should be applied.	1	DPW; SHA	N
8. When possible, proposed road improvement projects should minimize visual impacts and enhance the experience of motorists and pedestrians.	1	DPW; SHA	N
9. Road improvements shall compliment local, State and National efforts to preserve Historic Landmarks and Districts, and protect natural resources and the environment.	1	DPW; SHA	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
10. Reduce the impact of traffic on existing communities by encouraging mechanisms such as lower speeds, narrow roads with safe pedestrian crossings, the re-direction of truck traffic away from designated historic districts and rural village centers, and the application of design elements and engineering methods that preserve village character.	1	DPW; SHA	N
11. Proposed road improvements shall provide consideration for the unique needs of farm machinery.	1	DPW; SHA	N
12. Removal of or impact to natural features including streams, rock outcrops, and large trees shall be avoided unless absolutely necessary for road safety.	1	DPW; SHA	N
13. Design roadways to provide connectivity for communities which limit cut-through traffic.	1	P&Z; DPW	N
<i>Highway Policy 3: Improve safety on County's roads.</i>			
1. Design intersections and public walkways to meet ADA requirements for curb ramps, accessible traffic signals, and crosswalk enhancements.	3	DPW; SHA	N
2. Design neighborhood streets to discourage speeding and excessive traffic volumes.	3	DPW; P&Z	N
3. Continue to utilize street, streetscape, and traffic control design guidelines and standards that address the needs of everyone and comply with ADA requirements.	3	DPW; SHA; P&Z	N
4. Implement strategies to minimize the negative impacts of truck traffic while maintaining efficient movement of goods.	2	DPW; SHA; P&Z	N
5. Continue to investigate accident data and direct capital improvement funds toward intersections and road segments that experience a disproportionately high number of accidents.	1	DPW; SHA	Y

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
6. Implement emergency vehicle preemption technology at intersection signals in the County to enhance the operation of emergency vehicles and services.	1	DPW; SHA	Y
<i>Highway Policy 4: Design and build roadways that provide multimodal opportunities where appropriate.</i>			
1. Implement the establishment of Complete Streets by including appropriate facilities to provide safe access and circulation for pedestrians, bicyclists, transit riders, and motorists, where feasible.	3	DPW; P&Z	Y
2. Promote livability and walkability by establishing and maintaining high-quality streetscapes.	1	DPW; P&Z	Y
3. Encourage street connectivity within the Development Envelope.	3	DPW; P&Z	N
4. Enhance mobility by creating linkages between communities and transit and rail facilities to serve commuters.	2	DPW; P&Z	Y
5. Encourage the use of bicycle, pedestrian, transit improvements, and other TDM options as mitigation measures to address Adequate Public Facilities requirements.	2	P&Z; DPW	N
<i>Highway Policy 5: Provide a transportation system that is designed to be sensitive to the quality of the environment and natural, historic, and cultural resources.</i>			
1. Reduce the energy consumption associated with traffic signals and streetlights through greater use of more energy-efficient lighting such as light-emitting diode (LED) displays and the use of roundabouts.	3	DPW; SHA	Y
2. Improve energy efficiency and reduce hydrocarbon emissions by encouraging and accommodating nonmotorized travel, public transit, carpooling, telecommuting, and alternative fuel vehicles.	3	DCS; P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
3. Minimize the creation of impervious surface areas for roads and other transportation facilities, and manage the collection and treatment of runoff in an environmentally sensitive manner.	3	DPW; SHA; P&Z	N
4. Ensure that road design and maintenance standards minimize impacts to natural, historic, and cultural resources.	3	DPW; P&Z	N
5. Maintain natural vegetation along roadways to the maximum extent possible.	3	DPW; SHA	N
6. Support the designation of the Lower Susquehanna Heritage Greenway as National Scenic Byway.	3	P&Z;DPW;OED	Y
7. Proposed road improvement projects located within one-half mile of a designated local, State or National Historic landmark or district shall be subject to a review by the Historic Preservation Commission. Their recommendations should be given the utmost consideration and implemented unless determined to be economically or physically unfeasible.	1	DPW; SHA; P&Z; HPC	N
8. The County shall ensure that designated local, State or National landmarks and districts are protected in a manner consistent with the State policies regarding certified “heritage areas” and shall integrate its preservation planning with the State-enacted Heritage Corridor/Heritage Area Programs.	1	DPW; SHA; P&Z; HPC	N
9. Road improvement projects within a local, State or National district or which impact a designated landmark, including bridge replacements shall employ architecture, building materials and design elements that compliment the community’s unique disposition.	1	DPW; SHA; P&Z; HPC	N
10. The County’s Historic Preservation Planner shall identify and coordinate with the Department of Public Works’ Sign Shop and the State Highway Administration to erect identification signs of County Villages, Hamlets, and Crossroads of importance to Harford County’s History.	2	P&Z; DPW; SHA	Y

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
11. Public Works officials, in partnership with the Historic Preservation Planner, shall develop a plan that encourages the redirection of through traffic away from designated historic districts and rural villages via changes to Maryland's Official Highway Map, and internet based/GPS maps.	1	DPW; SHA	N
12. The County Historic Preservation Planner and the Historic Preservation Commission shall pursue Historic designation and protection of the County's only river "ford" located on Tabernacle Road crossing through Deep Run in Whiteford.	2	P&Z; DPW; SHA	N
13. Public Works officials, in partnership with the State Highway Administration shall develop a plan that encourages the redirection of truck traffic away from State parks via changes to Maryland's Official Highway Map, and internet based/GPS maps.	1	DPW; SHA	N
14. Encourage the use of the State Highways Administration's context sensitivity design standards.	3	DPW; P&Z; SHA	N
Highway Policy 6:			
Ensure that roadways that traverse and/or adjoin State Parks and certain County Parks preserve and when feasible enhance, scenic, aesthetic and environmental resources, while maintaining safety and mobility.			
1. The County and the State shall ensure that State Parks, and County Nature and Estuary Centers and Parks are protected in a manner consistent with the State's policies regarding certified "heritage areas" and shall integrate its preservation planning with the State-enacted Heritage Corridor/ Heritage Area Programs.	1	DPW; SHA; P&R; DNR	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
2. Proposed road improvement projects that alter unique natural features of a roadway shall be minimized to preserve the visual experience of motorists and pedestrians approaching, proceeding through and leaving the park.	1	DPW; SHA; P&R; DNR	N
3. Road improvement projects within a State Parks, and County Nature and Estuary Centers and Parks shall seek input from the public and must have community support through public participation process.	1	DPW; SHA; P&R; DNR	N
4. The County shall strive to coordinate its preservation of State Parks, and County Nature and Estuary Centers and Parks with the appropriate State and Federal offices, agencies, and departments.	1	DPW; SHA; P&R; DNR	N
5. Road improvement projects shall be designed utilizing architecture, building materials and design elements that compliment the integrity and character of the park.	1	DPW; SHA; P&R; DNR	N
Highway Policy 7:			
The County shall create and establish a Local Scenic Roadway Corridor Program and a Local Scenic Roadway Corridor Advisory Board to identify corridors for the program.			
Highway Policy 8:			
The County should establish a Rural Roads Program which will provide the County with another tool to recognize and preserve the County's agricultural and rural heritage. The purpose of this program includes the following:			
1. Help protect the scenic and historical qualities of the roads and the adjacent landscape.	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	N
2. Support, preserve, and enhance the agricultural/rural character of the County.	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
3. Contribute to a comprehensive, county-wide inventory of rural/scenic qualities.	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	N
4. Provide continuing maintenance of gravel roads, allowing for localized, necessary, safety accommodations (excluding comprehensive stabilization tar and chipping).	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	Y
5. Periodically review the petition process established for residents to convert gravel/dirt roads to tar and chip or asphalt surfaces the process should take into consideration the concerns of residents living on roads nearest to proposed resurfacing.	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	N
6. Allow farmers transportation mobility.	2	DPW; BOARD TO BE CREATED BY FUTURE LEGISLATION	N
GOAL: Construct and maintain a network of bicycle facilities in the County to enhance and promote non-motorized transportation.			
<i>Bicycle Policy 1: Develop and implement a consistent and effective program for the provision of bicycle facilities.</i>			
1. Provide accommodations for bicycles on all collector and larger roads within and leading to the Development Envelope at the time of construction or major reconstruction.	3	DPW; SHA	Y
2. Utilize the State's two tier prioritization guidelines for bicycle improvements and create a County system for prioritizing the need for bicycle facilities on or along County roads.	1	DPW; P&Z	N
3. Coordinate with the municipalities regarding the implementation of inter-jurisdictional bicycle facility improvements and the development of a Bicycle Master Plan.	1	DPW; MUN; P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
4. Continue serving on the Bike and Pedestrian Advisory Group at the Baltimore Metropolitan Council to ensure that local needs are addressed and to promote regional facilities.	3	P&Z	N
5. Implement applicable recommendations included in the Baltimore Metropolitan Council's Bike and Pedestrian Action Plan.	2	DPW; P&Z	Y
6. Ensure that new development and redevelopment is designed to accommodate bicycles by providing separate bike trails where appropriate.	3	P&Z	N
7. Identify areas where bicycle parking or storage facilities should be established.	1	P&Z	N
8. Increase the regularity of street and shoulder sweeping along major roads especially those with bicycle facilities.	3	DPW	N
9. Encourage installation of bike racks in retail spaces adjacent to residential.	3	P&Z	N
10. Determine where existing conditions are safe for bike lanes and apply appropriate signage and street paint.	1	P&Z; DPW	N
<i>Bicycle Policy 2: Target funding and infrastructure to areas where bicycle safety and capacity improvements are needed.</i>			
1. Identify roadways where bike route improvements are needed to link major employment and population centers and prioritize funding for these segments.	1	DPW; P&Z	N
2. Coordinate closely with the State Highway Administration on highway projects to ensure that plans address the needs of Harford County bicyclists.	3	DPW; SHA; P&Z	N
3. Work with the State and the East Coast Greenways to provide adequate facilities along the designated East Coast Greenway route.	2	DPW; SHA; P&Z	Y
4. Apply for State and Federal grants to create and upgrade bicycle facilities throughout the County.	3	DPW; P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
5. Seek capital project funding in cooperation with non-profit bike and pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct and maintain bike facilities.	3	P&R	Y
<i>Bicycle Policy 3: Expand education and outreach programs for bicycle safety.</i>			
1. Continue to support and promote Bike to Work Day, the Bike Mentor Program, and other bike safety initiatives presented by the Office of Community Services.	3	DCS; P&Z	N
2. Work with the Baltimore Metropolitan Council to create an educational campaign featuring pamphlets, signs and advertisements directed both at motorists and bicyclists about safely using the roadway system.	1	DCS; BMC; P&Z	N
3. Work with One Less Car and cycling organizations to provide training sessions for cyclists.	2	DCS	N
4. Develop a Harford County bike map.	1	P&R; P&Z	N
GOAL: Implement a network of pedestrian facilities in the County to enhance and promote walking as an alternative to automotive use.			
<i>Pedestrian Policy 1: Improve the connectivity of the pedestrian network in the County.</i>			
1. Establish an inventory of sidewalks in the County and identify missing links or areas where sidewalks are needed.	1	DPW; P&Z	N
2. Prioritize locations that have the greatest need for new or re-constructed sidewalks to create pedestrian links.	2	DPW; P&Z	N
3. Incorporate sidewalk facilities in all appropriate road improvement projects and residential and commercial approved projects.	3	DPW; P&Z	Y

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
4. Coordinate with State Highways and the Department of Public Works to improve pedestrian crossings at major roadway intersections through retiming of the signals and the redesign of pedestrian movements through the intersection.	2	DPW; SHA; P&Z	N
5. Provide pedestrian access and intersection improvements at all transit stops.	2	DPW; SHA	Y
6. Seek capital project funding in cooperation with non-profit pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct identified “missing links” by 2015.	3	P&R	N
7. Declare becoming a Healthy Harford goal and work with Upper Chesapeake-University of Maryland hospital system, Aberdeen Proving Ground major and minor employers to promote the social and economic benefits of walking.	1	Harford County Health Department	N
8. Establish bike/pedestrian advisory board.	1	P&R; County Council; P&Z	N
<i>Pedestrian Policy 2: Utilize the Safe Routes to School Program to improve the pedestrian network.</i>			
1. Work with the Sheriff’s Department, the Board of Education, the municipalities, and all other appropriate agencies to implement a Safe Routes to School program for all schools.	2	SHO; DPW; BOE; MUN; P&Z	Y
2. Evaluate the pedestrian and bicycle infrastructure near and leading to Harford County high schools.	2	DPW; BOE; P&Z	N
3. Encourage schools to provide educational programs that support walking and its health benefits.	1	DCS; BOE; HCC	N
4. Continue to seek funding for the Safe Routes to School Program.	3	SHO; P&Z	N
5. Support and promote the annual International Walk to School Day.	3	SHO; BOE	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
GOAL: Continue to support the development of trail networks as part of the County's transportation network.			
<i>Trail Policy 1: Ensure that appropriate trail segments are incorporated into the non-motorized transportation network.</i>			
1. Recognize trails as a viable transportation facility by incorporating the construction and maintenance of trails into the Capital Improvement Program.	3	P&R; P&Z	N
2. Identify opportunities to coordinate trail crossings with proposed road improvements.	3	DPW; P&R; P&Z	N
3. Work with the Department of Parks and Recreation and the Maryland Department of Natural Resources to design future trails for the recreational user and the daily commuter whenever possible.	3	P&R; P&Z	N
4. Where possible, link trail networks to the bicycle and pedestrian street network to provide connectivity.	3	P&R; P&Z	Y
5. Require that adequate area is set aside for trail segments in development and redevelopment projects that include planned trail alignments.	3	P&Z	N
6. Provide adequate amenities and signage throughout the trail networks.	2	P&R	Y
<i>Trail Policy 2: Strengthen the public/private partnerships responsible for trail systems.</i>			
1. Continue to support the public/private partnerships associated with the designated trail systems.	3	P&R; P&Z	N
2. Market the County's trail system as a tool for community health and economic growth for small businesses.	3	P&R	N
3. Dedicate a portion of the Open Space fee-in-lieu for trail construction and improvements.	1	P&R; P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
4. Seek capital project funding in cooperation with non-profit pedestrian organizations like the Ma & Pa Foundation and Lower Susquehanna Heritage Greenway to construct identified “missing links” by 2015.	3	P&R	Y
GOAL: Provide efficient and convenient transit and rail services that address local and regional needs.			
<i>Transit and Commuter Rail Policy 1: Continue to improve and expand the service provided by Harford Transit.</i>			
1. Implement the recommendations provided in the 2008 Harford Transit Development Plan.	2	DCS; HT; P&Z	Y
2. Work with regional partners to identify, fund, and implement transit service that will connect Harford and Cecil routes.	2	DCS; HT; Cecil; P&Z	Y
3. Continue to coordinate with Aberdeen Proving Ground to establish a Park and Ride express bus route that exclusively serves the facility.	2	HT; DCS; APG	Y
4. Work with Harford Community College to improve transit service and increase ridership.	1	HT;HCC	Y
5. Provide signage and shelters at designated transit stops.	3	HT;MTA	Y
6. Continue to promote transit as a viable alternative through advertising and other marketing initiatives.	3	DCS; HT; MTA	N
<i>Transit and Commuter Rail Policy 2: Expand Maryland Transit Administration (MTA) commuter bus service.</i>			
1. Work with MTA to add additional buses to the existing routes and to provide midday service to and from Baltimore.	2	MTA; DCS; OED	N
2. Work with MTA to establish an I-95 commuter bus route that utilizes park and ride lots along the corridor.	1	MTA; DCS	N
3. Work with MTA to establish an express bus service to Aberdeen Proving Ground.	1	MTA;DCS; OED	N
4. Ensure connectivity between Harford Transit and MTA commuter routes.	1	HT; MTA	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
5. Establish a reverse commute route that connects locations in the Baltimore metropolitan region with Aberdeen Proving Ground.	1	MTA; HT; APG; OED	Y
6. Work with the Baltimore Metropolitan Council and MTA to establish a guaranteed ride home program for transit commuters working in Harford County, Baltimore City and Baltimore County.	1	DCS; BMC, MTA	Y
<i>Transit and Commuter Rail Policy 3: Expand MARC service and facilities.</i>			
1. Continue to support the MARC Growth and Investment Plan.	3	MTA, DCS	N
2. Continue to work with the Maryland Transit Administration to establish additional MARC routes to provide midday, weekend and reverse commute service.	2	MTA, DCS; OED	N
3. Support the construction of a multi-modal facility in Aberdeen and improvements to the Edgewood station.	2	DCS; DPW; OED; MTA; P&Z	Y
4. Establish transit connections to the MARC stations.	1	HT; MTA	N
5. Provide needed parking and improve access at existing stations.	2	MTA; SHA	Y
<i>Transit and Commuter Rail Policy 4: Support the development of land use patterns that facilitate transit and rail use.</i>			
1. Evaluate and adjust the Land Use Plan designations and policies to support transit and rail service as part of the next Land Use Plan update.	2	HT; P&Z	N
2. Consider the creation of a transit overlay district that would provide for increased densities, mixed uses, and connectivity to identified transit stops.	2	P&Z	N
3. Ensure that new development and redevelopment activity are designed to accommodate transit where appropriate.	3	P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
GOAL: Develop and implement a comprehensive Transportation Demand Management program.			
<i>TDM Policy 1 – Expand the scope of the County’s Transportation Demand Management Program to include elements contained in successful programs.</i>			
1. Study effectively implemented TDM programs and identify components suited for Harford County.	1	DCS; P&Z	N
2. Work with the appropriate County departments, the Board of Education and the private sector to implement new TDM elements.	2	BOE;HCC; OED; P&Z	N
3. Support the siting and development of park and ride facilities in coordination with planned road projects.	3	SHA; MTA; DPW; P&Z	N
4. Implement countywide commuter incentive programs for carpooling, vanpooling, transit, and guaranteed ride home programs.	1	DCS	N
5. Incorporate TDM options into the Transportation Impact Analysis process.	3	DPW; P&Z	N
6. Encourage the use of TDM options within the Chesapeake Science and Security Corridor, the BRAC zone, and surrounding the MARC stations.	3	P&Z;OED	N
<i>TDM Policy 2: Expand the TDM marketing program in both the private and public sectors.</i>			
1. Continue to organize and facilitate employer transportation fairs.	3	DCS; P&Z	N
2. Support the efforts of the Transportation Management Association to promote Transportation Demand Management Programs.	3	DCS;P&Z	N
3. Work with property managers of multi-tenant buildings to coordinate and implement rideshare and transit programs.	3	DCS	N
4. Work with the Office of Economic Development to provide new employers with information on transportation options.	3	DCS; OED	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
5. Continue to participate in regional activities that promote alternative transportation such as Bike to Work Day and Clean Commute Month.	3	DCS; P&Z	N
6. Work with the Baltimore Metropolitan Council and other inter-regional bodies to determine the feasibility of creating a regional TDM program.	2	DCS; BMC; P&Z	N
7. Work with the Board of Education to establish an educational program about environmentally sound commuting.	2	BOE; HCC;DCS	N
GOAL: Support efforts to make air travel a safe, attractive, efficient, and competitive mode of transportation for the citizen and business communities of Harford County.			
<i>Aviation Policy 1 – Improve accessibility to existing regional and local aviation facilities.</i>			
1. Work with the Maryland Transit Administration to establish transit or MARC service between Harford County and regional airports such as BWI and Philadelphia International Airport.	2	DCS; MTA	Y
2. Work with Harford Transit to determine if one or more of the existing County aviation facilities should be served with a transit stop.	1	HT; OED; P&Z	N
<i>Aviation Policy 2 – Improve the operations and capacity of airparks in Harford County.</i>			
1. Encourage the use of aviation facilities to enhance economic development.	3	OED	N
2. Evaluate the potential for public ownership or financial support for the expansion of privately owned airports in the County.	2	OED; P&Z	Y
3. Maintain the future viability of local airparks by ensuring that surrounding land uses are compatible.	3	P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
4. Develop a marketing campaign that raises awareness of the County's existing facilities and their ability to serve as connectors to regional facilities.	1	OED	N
5. Continue coordinating with the US Army and Aberdeen Proving Ground by providing technical assistance and implementation plans for possible joint use of Phillips Army Airfield for public commercial operation.	3	OED; APG;P&Z;	N
GOAL: Support transportation initiatives that help to protect and improve air quality.			
<i>Air Quality Policy 1 – Increase the number of low emission and hybrid gas-electric vehicles in the County fleet.</i>			
1. Continue purchasing hybrid gas-electric vehicles when replacing vehicles within the County fleet.	3	ADMN	Y
2. Utilize grants, tax credits or other financial incentives available through the State and Federal government or private sector when purchasing new hybrid vehicles.	3	ADMN	N
3. Design and implement a program for retrofitting diesel powered vehicles with cleaner lower emitting technologies.	1	ADMN	N
4. Dedicate funds in the annual budget for diesel vehicle retrofit applications.	3	ADMN	Y
5. Apply annually for Congestion Management Air Quality (CMAQ) funds to retrofit County diesel vehicles.	3	DPW;DCS;HT	Y
6. Ensure that new diesel powered vehicles have built in emissions control systems when replacing old diesel vehicles in the county fleet.	3	ADMN	N
<i>Air Quality Policy 2 – Continue to increase the public's awareness of the connection between vehicle use and air pollution.</i>			
1. Continue to work with the Baltimore Metropolitan Council to meet Federal air quality standards.	3	BMC;P&Z	N

POLICIES and ASSOCIATED IMPLEMENTATION STRATEGIES/ACTION ITEMS	PRIORITY	RESPONSIBILITY	CAPITAL ITEM (Y/N)
2. Continue to sponsor Clean Commute Month programs including Clean Car Clinics.	3	DCS	N
3. Encourage the use of alternative transportation methods to reduce vehicular emissions.	3	DCS; P&Z	N
4. Continue to promote the use of carpools and vanpools to reduce the number of single occupant vehicles on the road.	3	DCS	N
5. Coordinate with the Board of Education and Harford Community College to develop programs regarding the connection between vehicle use and air quality.	2	BOE; HCC; DCS; P&Z	N

Section IV

APPENDICES

APPENDIX A

Level of Service - LOS

Level of service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

There are six established LOS – A through F – that measure the operational efficiency of a transportation facility. The following is a general definition of each level of service:

LOS A – free flow of traffic with no restriction of significant delay.

LOS B – stable flow of traffic with very little restriction or delay.

LOS C – stable flow of traffic with low to moderate restriction or delay.

LOS D – approaching unstable flow of traffic with moderate to heavy restriction and delay.

LOS E – unstable flow of traffic with significant restriction and delay.

LOS F – forced flow or cases of “grid lock”. The flow rate drops significantly.

The table below shows the LOS for signalized and unsignalized intersections as defined by Highway Capacity Manual 2000.

LOS CRITERIA FOR SIGNALIZED INTERSECTIONS	
LOS	Control Delay per Vehicle (seconds/vehicle)
A	≤ 10
B	$> 10 \text{ \& } \leq 20$
C	$> 20 \text{ \& } \leq 35$
D	$> 35 \text{ \& } \leq 55$
E	$> 55 \text{ \& } \leq 80$
F	> 80

LOS CRITERIA FOR UNSIGNALIZED INTERSECTIONS	
LOS	Control Delay per Vehicle (seconds/vehicle)
A	≤ 10
B	$> 10 \text{ \& } \leq 15$
C	$> 15 \text{ \& } \leq 25$
D	$> 25 \text{ \& } \leq 35$
E	$> 35 \text{ \& } \leq 50$
F	> 50

APPENDIX B

Functional Classification

The nature and intensity of population density and development determines the characteristics of urbanized roadways.

ROADWAY CLASSIFICATION – The basic functions of all roads are the movement of vehicular traffic and the provision of access to adjacent land. The Harford County Highway Classification System is exclusively based on these functions and divides the components of the overall road system into various roadway classifications, each serving the two basic functions to different degrees. These classifications are based on general plan guidelines and design data developed from alignment studies and/or traffic studies. Below are the roadway classifications and their characteristics.

INTERSTATE – A high-speed, limited access highway without interference over long distances that is intended to link large population centers. This classification is seen as a divided, arterial highway for through traffic movement with full control of access only at grade separated interchanges. Continuity of this system includes traversing through states and major cities. Spacing between interchanges in an urbanized area is typically one mile and five miles in rural areas.

PARKWAY – Acts as a major corridor between several communities and employment centers mostly in the urbanized areas. The appearance of a parkway is intended to be very scenic and environmentally sensitive, with formal landscaping. A parkway is not intended to provide direct access to individual properties or businesses. This roadway can support high volumes of traffic and is often designed as a fully controlled access highway. A parkway could include pedestrian and bicycle accommodations, an exclusive right-of-way, an extensive median configuration and skywalk facilities. A substantial right-of-way is required.

EXPRESSWAYS/FREEWAYS – A divided highway, with either full control of access on which all crossroads and railroads are grade separated. All entrance and exit maneuvers are by way of interchange ramps or partial control of access where a great distance between the intersections is provided and no direct access to abutting land between major intersections is allowed. Design speeds are lower or similar to interstate systems, but are generally higher than arterial roadways.

PRINCIPAL URBAN ARTERIAL – Link major centers of activity of a metropolitan area. Its primary function is for mobility and carries a high proportion of total trips entering, existing, or passing through an urbanized area. It is not intended to provide direct access to individual properties along its path and such service should be purely incidental to the primary function of the road for use of through traffic.

PRINCIPAL RURAL ARTERIAL – Serves trips of substantial length which consist of the following characteristics:

- 1) Serves Statewide or Interstate travel;
- 2) Connects urban areas of 50,000 or more and;
- 3) Provides an integrated network without stub connections except where unusual geographic conditions exist such as international boundary connections.

MINOR URBAN ARTERIAL – Interconnects with and augments the Principal Urban Arterial. It provides a lower level of travel and trip lengths as compared to Principal Arterials and serves Intra-community continuity. Spacing between Minor Urban Arterials varies from 1/8 of a mile – ½ miles in central business districts to 2 – 3 miles in the suburban areas. Although mobility is the primary function of this type of arterial system, it may provide limited access to major community centers along its path.

MINOR RURAL ARTERIAL – This roadway works in conjunction with Principal Rural Arterials and forms a network of rural roads which has the following characteristics:

- 1) Links cities, towns, and other major activity centers such as resort areas;
- 2) Serves the populated rural areas of the state and;
- 3) Provides mobility in the areas with minimum interference to through traffic.

URBAN COLLECTOR – Provides both access to abutting land and circulation within neighborhoods and business areas. It serves residential, commercial, and industrial areas by collecting and distributing trips from local streets and channelizing it into arterials for reaching their final destination. The amount of access provided to abutting land is important and the lengths of collector streets are typically limited to 2 to 3 miles.

MAJOR RURAL COLLECTOR – Provides service to towns that are not served by Principal Arterials. Intra-county travel between centers of activity such as major parks and agricultural areas of farming communities are connected via this system. It provides access to arterials for one or more neighborhoods, providing direct connections to residential roads and other collectors and has a limited amount of direct driveway access to abutting properties. These routes are spaced at intervals consistent with population density in which traffic is collected from local roads and channeled into a higher classified roadway to reach their destination in agricultural centers and towns. Also provides internal distribution within a rural neighborhood, or part of one, and has limited direct driveway access to abutting properties.

MINOR RURAL COLLECTOR – Provides access and service to neighborhoods, and direct access to residential, commercial, and industrial land use. The amount of access this type of road provides is important. The length of the minor collector road should remain limited to a few miles and create an efficient network to major collectors and arterials to effectively channel trips through the roadway network.

LOCAL ROADS – Harford County's Department of Public Works further categorizes local roads as Business District Roads and Residential Roads. Note that all developer constructed new

roads will fall into one of the following Local Road categories unless otherwise specifically defined in the Planning and Zoning – Preliminary Plan Approval Letter.

- 1) BUSINESS DISTRICT ROADS – A road that provides one or more of the following:
 - a. Interconnection between highly developed commercial or industrial property to arterial roads,
 - b. Access to individual properties comprising a commercial/industrial complex, and/or
 - c. Carries heavy volumes of truck traffic within or adjacent to any land which has been approved for any class of commercial or industrial use.
- 2) RESIDENTIAL ROAD CLASSIFICATIONS – Residential roads shall be classified as Residential Collectors, Residential Sub-collectors, Residential Access Streets, and Town House Access Roads. The design standards for the classifications of the residential roads are based on the lot sizes of the developments and the amount of daily traffic the road is expected to carry.
 - a. Residential Collectors: Residential Collectors are streets that collect and distribute traffic between Residential Sub-collectors and provide the linkage to streets of a higher classification. Residential collectors should be designed with no or limited residential accesses and no on-street parking. Direct access, if permitted, shall be restricted to lots with a minimum of 100 feet of frontage. The lots must provide sufficient parking for two vehicles and a turnaround so vehicles will not have to back out onto the collector streets.
 - b. Residential Sub-collectors: Residential Sub-collectors are local streets that provide frontage for residential lots and may carry some residential through traffic from access streets. A Residential Sub-collector shall be designed so that the amount of traffic for any section will carry no more than 1250 ADT.
 - c. Residential Access Streets: Residential Access Streets provide frontage and access to residential lots. The access streets are designed to provide access only to the lots fronting on it, which will eliminate through traffic. A Residential Access Street shall carry a maximum of 400 ADT.
 - d. Town House Access: Town House Roads shall provide direct access to individual townhouse units. Town House Access roads will carry no more than 450 ADT.
- 3) PRIMARY RESIDENTIAL ROAD – A major local road distributing and collecting traffic within larger residential subdivisions or neighborhoods, and performing the following:
 - a. Provides direct access between minor residential roads and collectors and minimal direct driveway access to abutting properties.
 - b. Distributes traffic generated within a neighborhood to collector roads.
 - c. Carries a limited amount of through traffic.

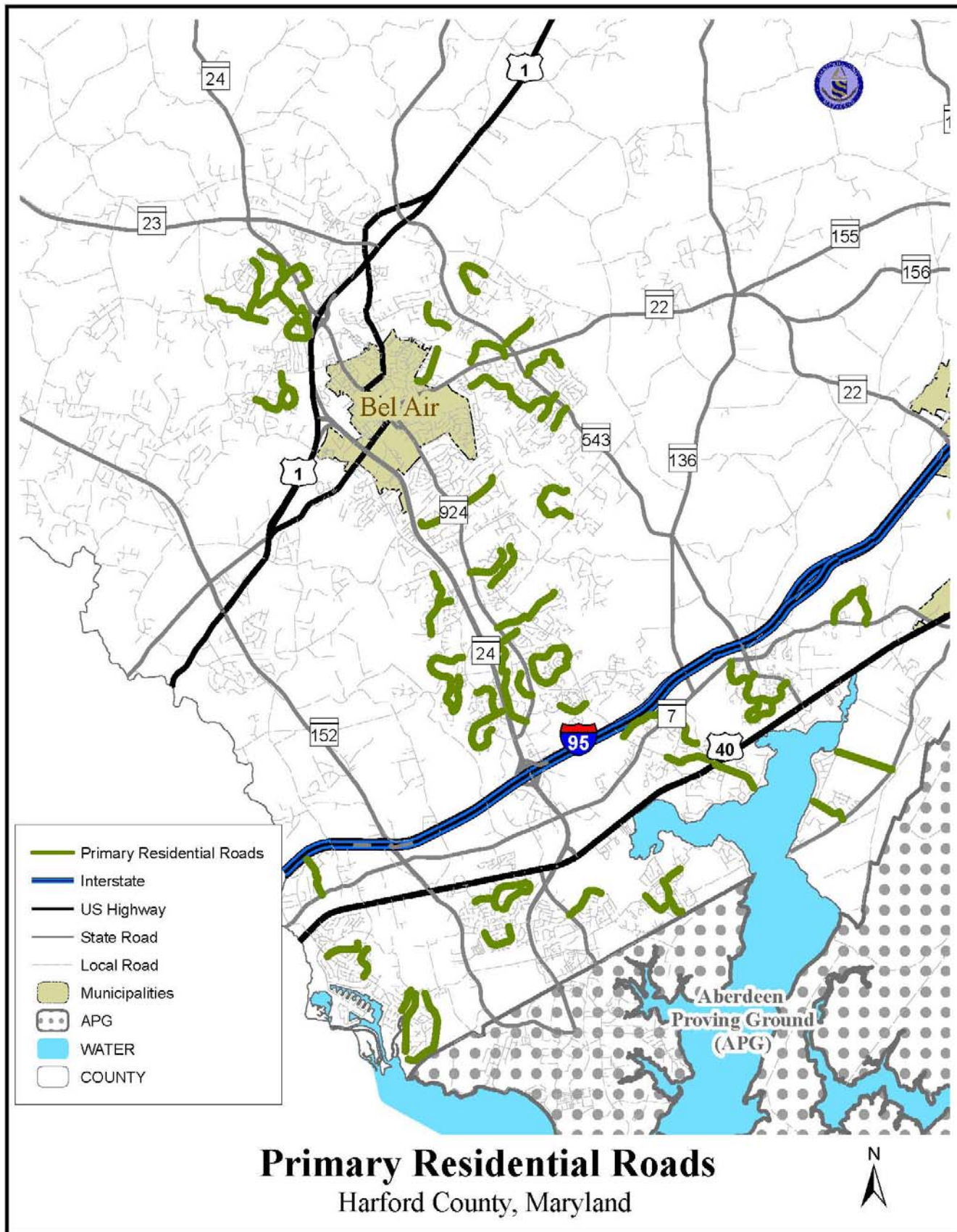
Primary Residential Roads shall meet the design standards for Residential Collector Roads as specified in the County Road Code.

Primary Residential Road

The most recent list and map of the Primary Residential Roads is maintained by the Department of Planning and Zoning

ROUTE	LIMITS	
	FROM	TO
Ahern Drive	Willoughby Beach Road	Winterberry Drive
Amyclae Drive	MD 543	Wagner Road
Ashton Lane	Tollgate Road	Westover Lane
Baneberry Drive	MD 7	Church Creek Road
Barksdale Road	Joppa Farm Road	Baldwin Drive
Barrymore Drive	Red Pump Road	Brentwood Park Drive
Bear Cabin Drive	Bernadette Drive	Osborne Parkway
Beaver Dam Drive	Singer Road	Dunnigan Drive
Bernadette Drive	Grafton Shop Road	Forest Valley Drive
Brentwood Park Drive	Vale Road	End
Bright Oaks Drive	MD 924	Rambler Road
Broadway	Moore's Mille Road	Town of Bel Air Line
Brookside Drive	Gilway Ct	Watergate Ct
Brunswick Drive	Todd Road	Fountain Glen Drive
Burnt Hill Drive	MD 7	Holly Oak Circle
Canning House Road	Mitchell Drive	MD 159 (Perryman Road)
Centerville Way	Thomas Run Road	Thomas Run Road
Church Creek Road	MD 543	MD 543
Crisfield Drive	Tollgate Road	End
Cypress Drive	Plumtree Road	Deadora Drive
Darby Lane	Deadora Drive	Tollgate Road
Deadora Drive	Cypress Drive	Wheel Road
Dellcrest Drive	MD 24	End
Dunnigan Drive	Singer Road	Terminus
Econ Drive	Moore's Mill Road	MD 22
Edgewater Drive	Watergate Ct	End
Falconer Road	Joppa Farm Dr	Jonathan Drive
Federal Lane	Abingdon Road	End
Forest Green Road	Park Beach Drive	MD 159 (Perryman Road)
Foster Knoll Drive	Trimble Road	End
Fountain Glen Drive	Banavie Terrace	Redfield Road
Foxborough Drive	MD 543	Cambry Drive
Freys Road	Willoughby Beach Road	Silverside Road
Garnett Road	Joppa Farm Road	Trimble Road
Glenangus Drive	MacPhail Road	Wheel Road

ROUTE	LIMITS	
	FROM	TO
Glenwood Road	MD 924	Rolling Road
Greys Run Circle	Church Creek Road	Church Creek Road
Gunpowder Ridge Road	MD 7	Powersby Road
Hanson Road	MD 755	Perry Avenue
Harford Square Drive	Hanson Road	Hanson Road
Harford Town Drive	MD 7	Peaker Bush Road
Haverhill Road	Trimble Road	End
Holly Oaks Circle	MD 7	Burnt Hill Trail
Holly Wreath Court	MD 924	End
Holly Wreath Drive	MD 924	Long Meadow Drive
Hunters Run Drive	Laurel Bush Road	Rambler Road
Kensington Parkway	Boxridge Drive	Falkland Road
Laburnum Road	Ebbtide Drive	Palmetto Drive
Laurentum Parkway	Boxridge Drive	Falkland Road
Long Bar Harbor	US 40	Baker Avenue
Montrose Way	Singer Road	Tollgate Road
Princeton Lane	St. Francis Road	Sweetbrier Lane
Prindle Drive	MD 543	Flintlock Drive
Redfield Road	Flintlock Drive	Banavie Terrace
Regal Drive	Laurel Bush Road	Parliament Drive
Ross Road	Red Pump Road	Dellcrest Drive
Runnymede Lane	Southampton Road	Henderson Road
Sewell Road	Abingdon Road	End
Singer Woods Drive	Singer Road	Holly Wreath Court
Spenceola Parkway	MD 24	MD 24
St. Clair Drive	Singer Road	MD 924
St. Francis Road	Red Pump Road	Sweetbrier Lane
St. Mary's Church Road	MD 924	Laurel Bush Road
Swallow Crest Drive	Brookside Drive	Woodbridge Center Way
Todd Road	Brierhill Drive	Brunswick Drive
Trellis Lane	MD 924	Singer Road
Trudeau Drive	Osborne Parkway	Dellcrest Drive
West Riding Drive	MD 924	Regent Drive
Westover Lane	Tollgate Road	End
Windy Laurel Way	Box Hill S Pkwy	Abingdon Road



APPENDIX C

Highway Safety

Priority Program Areas

❖ **Impaired Driving**

The Committee decided to approach this issue through the use of enforcement activities (sobriety checkpoints, saturation patrols, R.A.A.M.-. “reducing the availability of alcohol to minors- “cops in shops & stings”), educational programs, and community awareness. We also have an Impaired Driving victim’s speaker and a representative from the State’s Attorney’s Office on our committee and they continue to help support our efforts against impaired driving.

❖ **Aggressive Driving**

With these crashes in mind, the Committee’s approach to making an impact in solving this problem is through the use of enforcement activities such as “Smooth Operator”, aggressive driving saturation patrols, referral to the “drive to survive” program, and increased public awareness through education.

❖ **Occupant Protection**

In Harford County, many drivers and passengers are improperly restrained when involved in fatal crashes. Although statistics have shown the advantages of using these safety devices, there are those drivers who remain reluctant to buckle up prior to driving. We would like to see a consistent increase in seat belt use and it was the task of the HSC to work toward increasing awareness of the proper use of seat belts and child safety seats among the driver population in Harford County through the use of seat check events, educational material distribution and presentations.

❖ **Young Driver**

The Committee decided to work on trying to reduce young driver involved crashes through the use of educational activities in coordination with schools, civic organizations, and the Liquor Control Board. Enforcement activities were also implemented by law enforcement and included R.A.A.M, DUI saturation patrols, and Sobriety checkpoints. Members on our committee from Rules Driving School, Harford Community College, Harford County Public Schools, and Aberdeen Proving Ground are anxious to help with programs geared towards saving young driver lives.

❖ **Mature Driver**

In Harford County, we have 30,352 seniors, and by 2015, our population over 60 will exceed the number of school-age children. The Committee wanted to try to reduce crashes involving the mature driver through the use of a mature driver program established in coordination with the AAA. We continue to work with members from the AARP, Harford County Office on Aging, and North Harford Safe Driving Campaign who help support our efforts.

❖ **Bicycle & Pedestrian Safety**

Bicycling continues to be a popular mode of transportation in Harford County. The past few years have seen a growth in walking and biking trails to help provide a safer environment for bicyclists and walkers. The Committee worked to keep these crashes reduced through the use of educational activities and the distribution of safety literature at schools, businesses, and local community fairs. Pedestrian safety was also communicated through presentations in schools, educational material distribution, and daycare newsletter articles.

❖ **Inattentive Driving Prevention**

Inattentive crashes continue to be over- represented in Harford County with over 22% of inattentive drivers involved in a crash being between the ages of 16 and 20.¹ The Highway Safety Committee approached this problem area through the use of educational awareness materials targeting particularly the young driver.

❖ **Motorcycle Safety**

Motorcycle crashes continue to be a major problem in Harford County and the Committee is trying to address the problem through education and awareness. Motorcycle operators aged 25 to 49 were involved in a higher percentage of motorcycle crashes with 92% of all operators involved in a crash being male.² We planned to reach this group through the distribution of safety literature at motorcycle dealerships and events.

¹ MHSO Data Summary 2006

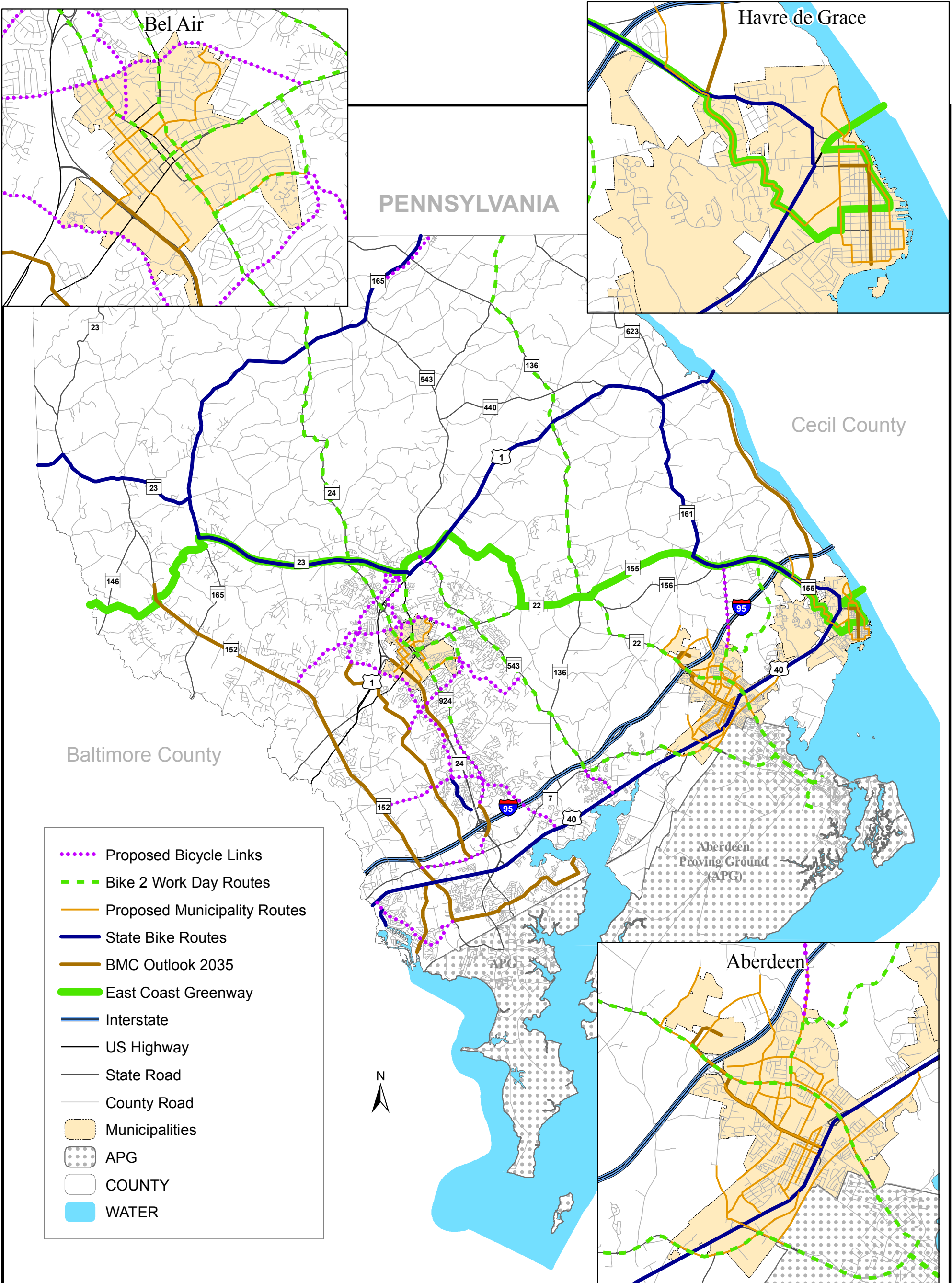
² MHSO Data Summary 2006

APPENDIX D

Potential Bicycle Linkages

Route	From	To
MD 138	MD 23	Baltimore County Line
MD 155	US 40	MD 161
MD 161	MD 155	US 1
MD 165	Jarrettsville Road	Pennsylvania State Line
MD 23	US 1	MD 138
US 1	Susquehanna River	MD 23
US 40	Otsego Street	Baltimore County Line
Bynum Road/Red Pump Road	Water Tower Way	North Tollgate Road
East Macphail Road/Wheel Road	Brierhill Drive	MD 543
East Ring Factory Road/West Ring Factory Road	East Macphail Road	Somerville Road
Joppa Farm Rd/Fort Hoyle Rd/Trimble Rd	US 40	MD 152
Ma & Pa Railroad	Wheeler School Road	Pennsylvania State Line
Ma & Pa Trail	MD 924	Melrose Lane
MD 462	MD 155	Old Robin Hood Road
MD 543	US 1 Conowingo Road	Saddleback Way
MD 543	MD 7	US 40
MD 7	MD 152	Fashion Way
MD 924	Singer Road	Woodsdale Road
MD 924	Bright Oaks Drive	Singer Road
Singer Road/Abingdon Road	MD 152	US 40
Tollgate Road	Red Pump Road	Singer Road
Vale Road	Red Pump Road	MD 152
Vale Road/Moores Mill Road	Red Pump Road	MD 22
Water Tower Way	MD 23	Bynum Road
Tollgate Road	Singer Road	Constant Friendship Boulevard
Townewood Drive	Joppa Farm Road	Towne Center Drive
Bourbon Street	Market Street	South Juniata Street
Canvasback Drive	Chapel Road	MD 155
Chapel Road	Grace Manor Drive	Canvasback Drive
Charles Street	Durham Road	Engle Road
Engle Road	Charles Street	MD 152
Erie Street	US 40	Water Street
Furnace Road/Durham Road	MD 165	Charles Street
Glenville Road	MD 155	MD 22
Grace Manor Drive	Lewis Lane	Chapel Road
Hess Road	MD 152	Baltimore County Line
Lewis Lane	Revolution Street	Grace Manor Drive
MD 152	Engle Road	Hess Road
MD 155	Canvasback Drive	Glenville Road
MD 165	MD 23	Furnace Road
MD 22	Glenville Road	Thomas Run Road
MD 23	US 1 Conowingo Road	MD 165
Pennington Road	Thomas Run Road	Thomas Run Road/Ruffs Mill Road
Revolution Street	South Juniata Street	Lewis Lane
Ruffs Mill Road	Thomas Run Road	US 1 Conowingo Road
South Juniata Street	Bourbon Street	Revolution Street

Route	From	To
Susquehanna Crossing - Biller's Bikes	Susquehanna River	Erie Street
Thomas Run Road	MD 22	Pennington Road
Thomas Run Road	Pennington Road	Ruffs Mill Road
US 1 Conowingo Road	Ruffs Mill Road	MD 23
Water St/Saint John St/Market St	Erie Street	Bourbon Street
Foster Branch Greenway	Mariner Point Park	US 40
Lower Susquehanna Heritage Greenway	Havre de Grace/Susquehanna River	Conowingo Dam
MD 132/MD 22/Long Drive	Aberdeen MARC	Cal Ripken Stadium
MD 152	Trimble Road	Hess Road
MD 24	Bel Air South Parkway	US 1
Otsego Street/Union Avenue	Juniata Street	Tydings Park
Trimble Rd/Willoughby Beach Rd/Flying Point Rd	Edgewood Park	Flying Point Park
Winters Run Greenway	MD 7	North Tollgate Road
Woodsdale Road/Walton Road	Edgewood Road	MD 924
Brierhill Drive/East Macphail Road	MD 22	MD 924
Earlton Rd/Robin Hood Rd/Old Robin Hood Rd/MD 462	MD 155	MD 22
MD 22	Thomas Run Road	MD 924
MD 24	Pennsylvania State Line	MD 23
MD 24/Bond Street	MD 23	MD 22
MD 543	Saddleback Way	MD 22
MD 543/MD 7/Old Philadelphia Rd/MD 715	MD 22	APG
MD 7/Edgewood Road	Fashion Way	MD 24
MD 924	Bright Oaks Drive	MD 22
Prospect Rd/MD 136/MD 22	Pennsylvania State Line	APG
US 1 Conowingo Road/Hickory Avenue	Johnson Mill Road	MD 22



Potential Bicycle Linkages

Harford County, Maryland



APPENDIX E – PROPOSED PEDESTRIAN IMPROVEMENTS

Sidewalks for Schools			
Route	From	To	School Name
Moores Mill Road	Hickory Avenue	Majors Choice Drive	Harford Day School
Moores Mill Road	Majors Choice Drive	Broadway East	Southampton Middle School
MD 543	Henderson Road	Leeswood Road	C. Milton Wright High School
Johnson Mill Road	Lincoln Road	US Business 1	Hickory Elementary School
US Business 1	Johnson Mill Road	Ady Road (MD 543)	Hickory Elementary School
StillMeadow Drive	Chimney Oak Drive	Ripplewood Road	Riverside Elementary School
Ripplewood Road	StillMeadow Drive	Haverhill Road	Riverside Elementary School
Fort Hoyle Road	Trimble Road	Clipper Drive	Magnolia Middle & Elementary Schools
Trimble Road	Fort Hoyle Road	Magnolia Road	Magnolia Middle & Elementary Schools
Cedar Drive	Edgewood Road	Juniper Lane	Edgewood Elementary School
MD 7	Clearview Road	Governor Court	William Paca/Old Post Elementary School
Tollgate Road	Singer Road	Ashton Lane	Abingdon Elementary School
MD 543	Crescent Drive	Redfield Road	Fountain Green Elementary School
Sidewalks within the Development Envelope			
Route	From	To	
Edgewood Road (MD 755)	MD 24	Old Edgewood Road	
Trimble Road	Willoughby Beach Road	Edgewood Road (MD 755)	
Tollgate Road	Ashton Lane	Constant Friendship Boulevard	
MD 924	Boxridge Drive	Abingdon Road	
East Macphail Road	MD 924	Edgehill Drive	
Vale Road	Locust Avenue	Vanderbilt Road	
Vale Road	Steed Lane	MD 924	
US Business 1	East Jarrettsville Road	Johnson Mill Road	
East Jarrettsville Road	US Business 1	MD 24	
MD 24	North Forest Drive	Rockspring Church Road	
Bynum Road	MD 24	Water Tower Way	
MD 543	MD 7	US 40	
Sidewalks within the Rural Villages			
Route	From	To	Public Amenity
MD 161	Swartz Road		Darlington Library

