

# HNI OVERVIEW

## 1.0 BACKGROUND

The Highway Needs Inventory (HNI) is a technical reference and planning document which identifies highway improvements to serve existing and projected population and economic activity in the State as well as address safety and structural problems that warrant major construction or reconstruction.

The projects identified in this document represent only an acknowledgment of need based on technical analysis and adopted local and regional transportation plans. **The HNI is not a construction program, and inclusion of a project does not represent a commitment to implementation.** The HNI is not financially constrained nor is it based on revenue forecasts.

The HNI may be considered as a compilation of projected major highway deficiencies. It is important to note that only a portion of the projects in this document will be addressed in the future through selective capital improvements. Many of these needs will remain unfulfilled because the Department does not anticipate that the gap between needs and resources can ever be completely closed, even with the infusion of new revenue.

## 2.0 LEGAL BASIS OF THE HNI

The development of the HNI is required under Transportation Article 8 of the Annotated Code of Maryland. Title 8, section 610 defines the HNI as "...an identification of needs for highway projects, based on latest evaluation of highway conditions and transportation needs..."

Section 611 further requires that "in calendar year 1979 and in each second year following, the Administration, following an assessment of the highway conditions and transportation needs of this State, shall prepare those proposed modifications of the highway needs inventory that it considers necessary."

## 3.0 SCOPE OF HNI

The HNI is based on a technical evaluation of highway conditions. The general scope and approximate cost of needed highway improvements in this document are based on the application of reasonable design standards. However, this does not preclude further considerations of alternative solutions to the problem, or the "no build" option. Ultimately, more detailed project planning studies would be conducted on potential projects to determine more precise cost estimates and acceptable solutions to the identified need. The HNI lists only major capital construction projects which entail a significant increase in traffic capacity, extensive right-of-way, high cost or major impact.

Low cost capital improvements, otherwise known as “system preservation projects” such as resurfacing, safety and spot improvements, commuter parking, beautification, bridge rehabilitation/reconstruction, drainage improvements, rail crossing elimination, traffic control improvements, and emergency work are not included in the HNI. These projects are included in the annual update of the Department’s Consolidated Transportation Program (CTP). Often these relatively low cost improvements serve to correct localized problems and to extend the time before major modernization of the facility becomes necessary. System preservation projects may in some cases result in an indefinite deferral of a major project.

#### **4.0 ROLE OF THE HNI IN THE PLANNING PROCESS**

The Maryland Department of Transportation’s planning process affects all modes and covers all aspects from policy/system planning and program development through detailed project planning and implementation. The key planning documents developed by the Department to establish the priority of various proposed highway improvements are as follows: (1) State Report on Transportation (SRT); (2) Maryland Transportation Plan (MTP); and (3) the Consolidated Transportation Program (CTP).

The HNI serves as a technical reference and reflection of these planning documents. In addition, the Department participates in the development of local and regional transportation plans which are the responsibility of local and regional planning agencies.

#### **5.0 HNI TERMINOLOGY**

There are 31,546 center line miles of roadway in the state of Maryland. Of this total, the Maryland Department of Transportation State Highway Administration (MDOT SHA) maintains 5,211 center line miles (16.5%). Although this represents less than 20 percent of the total miles of roadways in the state, these highways account for approximately 70% of the total vehicle miles of travel in the state. The 5,211 miles of highways maintained by the MDOT SHA are categorized for funding purposes as Primary and Secondary highways.

##### **5.1 Primary System**

The State Primary System consists of approximately 23 percent of the total State maintained road mileage. The State Primary System was originally adopted in 1972 and revised in 1978 in accordance with provisions of State law. The Primary System serves the state in the same manner as the Interstate System serves the nation. It has been a policy of the Department to develop the Primary System with a maximum practical degree of access control in order to provide safety to the motorist.

##### **5.2 Secondary System**

The Secondary System is a network of State routes which serve inter-regional and localized traffic. This network consists of approximately 77% of the total state maintained roadways and provides feeder and support functions to the Primary System. It also complements county highway systems.

## **6.0 IMPROVEMENT TYPES**

For projects in the Consolidated Transportation Plan (CTP), the specific improvement type identified is also shown in the HNI. Improvement types shown for other projects in the HNI are categorical rather than specific, pending project planning studies. The project planning studies may lead to the selection of a “no build” option or a different improvement type than shown in the HNI.

The improvement types used in the HNI may entail significant right-of-way acquisition, significant increases in capacity and/or significant environmental impact. The basic improvement types used in the HNI are described as follow:

### **6.1 Reconstruction**

These are improvements where old pavement and appurtenances such as drainage structures are removed and replaced or substantially modified. Such reconstruction may apply to the existing number of lanes or dualization, adding or modifying interchanges or existing highway on the same alignment.

### **6.2 Construction**

These are improvements of a totally new facility and appurtenances, including bridges. A new facility will generally provide a highway where none exists, or an alternate facility to an existing highway that will remain open and continue to serve through traffic.

### **6.3 Access Control Improvement**

Control of access by definition is where the ingress and egress to abutting land, onto and/or across the highway is fully or partially restricted by public authority. Highway access can be controlled as follows:

#### **6.3.1 Full Control**

This gives preference to through traffic by providing grade separation interchanges with selected public roads only and by prohibiting intersecting at-grade and direct private driveway connections.

#### **6.3.2 Partial Control**

This gives preference to through traffic to a degree that, in addition to or in lieu of interchanges with major public roads, there may be selected at-grade intersections to public streets only.

### **6.3.3 Uncontrolled Access**

This allows the number of points of ingress and egress to be limited only by control over the placement and the geometric design of connections as necessary for the safety of the traveling public.

## **6.4 Lane Definitions**

The specific number of lanes is referenced only for two lane highways in the HNI, and any highway improvement needing more than two lanes is generally referred to as “multi-lane”. Where the case for a multi-lanes improvement is more firmly established; the following terms may be used:

### **6.4.1 Divided Highway.**

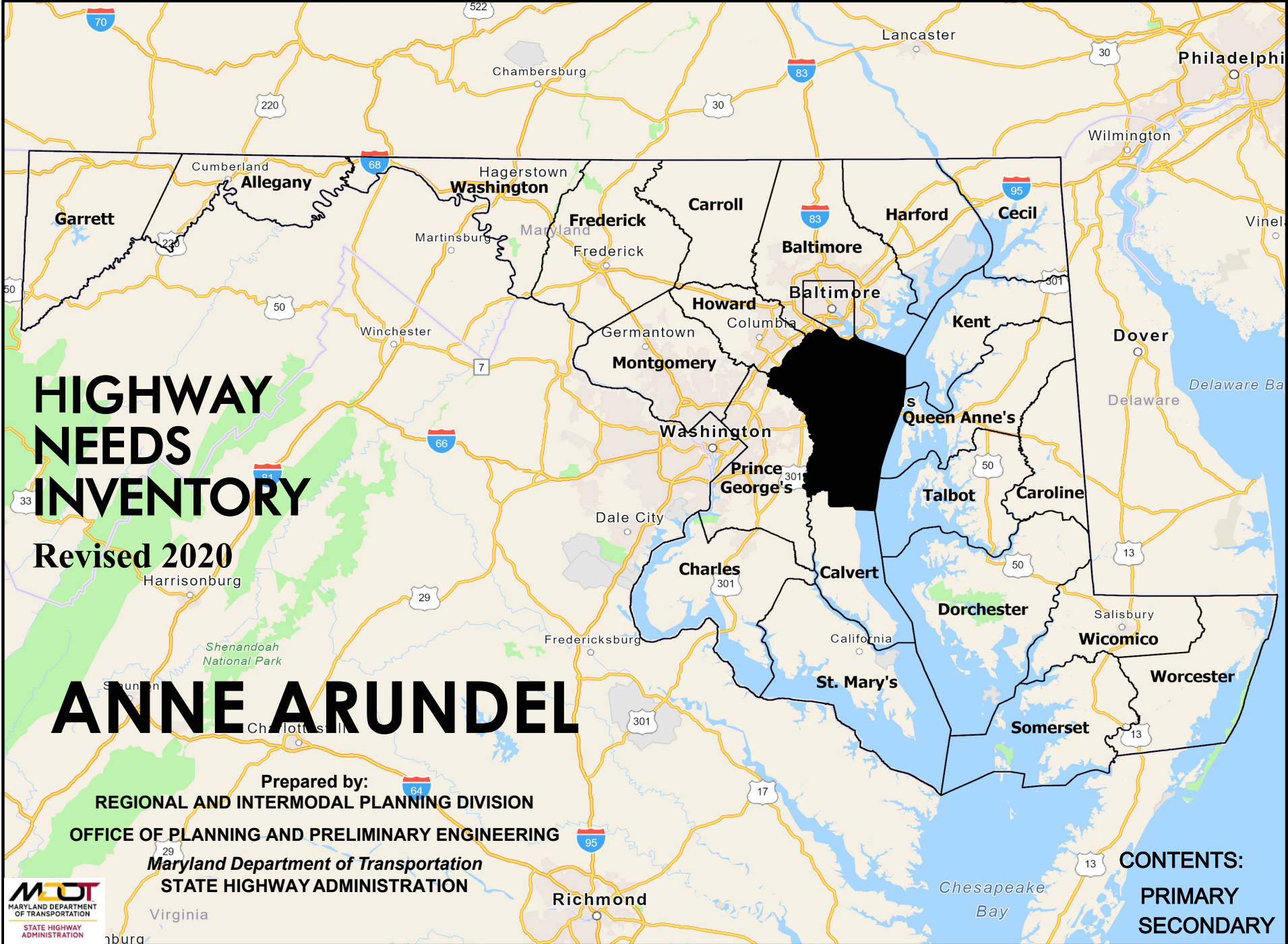
This is a multi-lane highway where opposing roadways are separated by a median or barrier.

### **6.4.2 Freeway.**

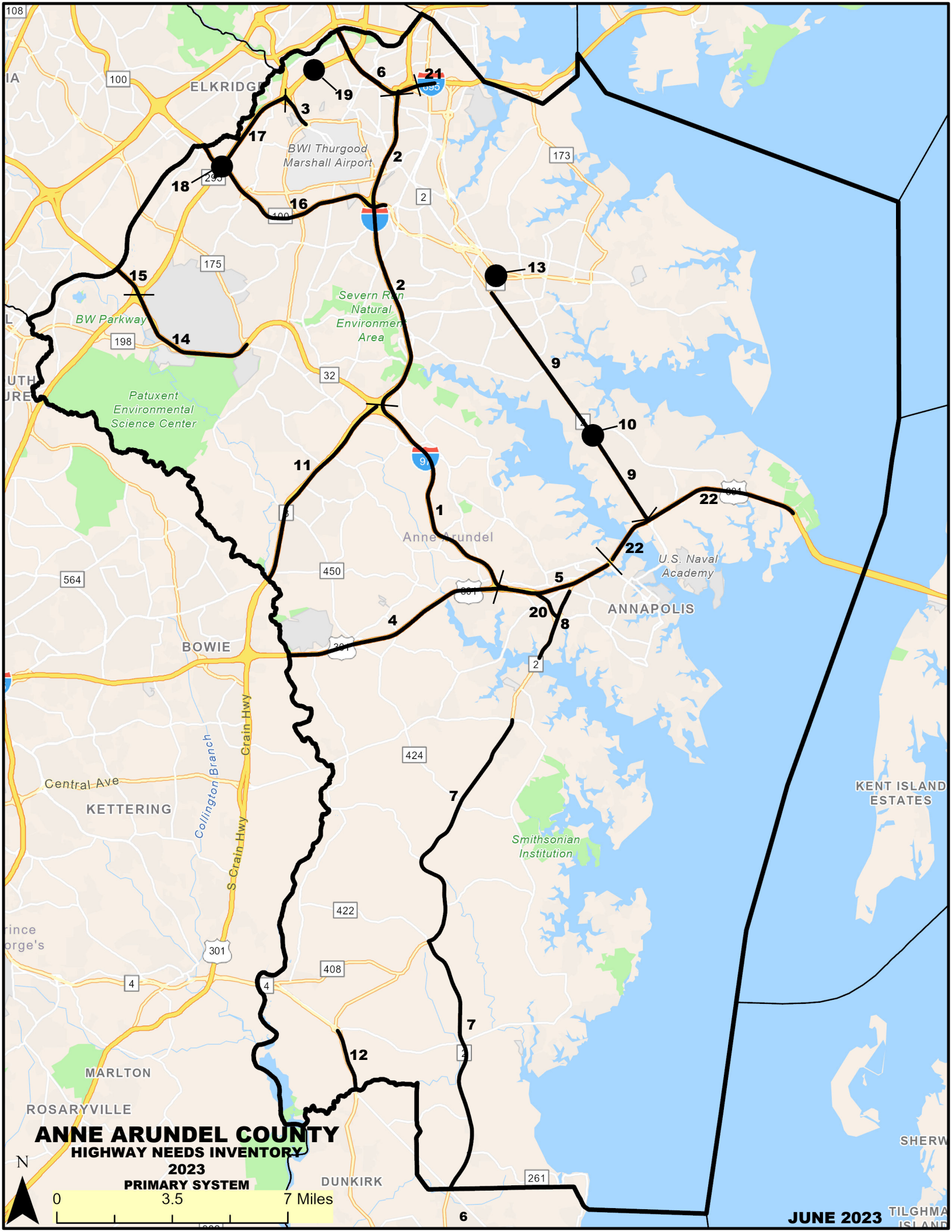
This is divided highway, usually serving a principal arterial function, providing for unrestricted through traffic movement and full control of access (called an expressway under current Maryland law).

## **7.0 COST ESTIMATES**

Cost estimates for prospective improvements are approximate, and are based on likely improvement types. The estimates are not detailed engineering estimates nor do they reflect substantive engineering analysis. These cost estimates do not imply fixed decisions, nor do they preclude alternative solutions to the problem. They merely provide the basis for a general appraisal of the total cost of all highway needs, as well as some idea of the distribution of highway needs across the State.

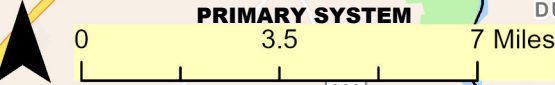






# ANNE ARUNDEL COUNTY HIGHWAY NEEDS INVENTORY

2023  
PRIMARY SYSTEM



JUNE 2023

# HIGHWAY NEEDS INVENTORY

Anne Arundel County - Primary

(Revised 2023)

Map Ref.	Route-Route Name Limits	County	Priority Length	Improvement Type Cost (\$000)
1	IS 97 No Name US 50/301 to N. of MD 32	IS	Yes 7.0	Freeway reconstruct/Managed lanes \$230,900
2	IS 97 No Name N. MD 32 to I-695	IS	No 10.4	Freeway reconstruct/Managed lanes \$339,100
3	IS 195 Metropolitan Boulevard MD 170 to MD 295	IS	No 1.1	Freeway reconstruct (includes interchange at MD 170) \$93,300
4	IS 595 John Hanson Highway Prince George's County line to I-97	IS	Yes 6.9	Freeway reconstruct \$153,300
5	IS 595 John Hanson Highway I-97 to MD 70	IS	Yes 3.4	Freeway reconstruct/Managed lanes \$152,900
6	IS 695 Baltimore Beltway W. of MD 648E to Baltimore County line	IS	No 2.2	Freeway reconstruct (includes interchange at MD 170) \$116,800
7	MD 2 Solomons Island Road Calvert County line to MD 214	MD	No 16.2	2 lane reconstruct with access management \$216,600
8	MD 2 Solomons Island Road North of South River to MD 450 in Parole	MD	No 2.2	Divided highway reconstruct \$60,600
9	MD 2 Governor Ritchie Highway US 50/301 To MD 10	MD	Yes 8.4	Divided highway reconstruct \$219,000
10	MD 2 Governor Ritchie Highway At College Parkway	MD	No 0.5	Interchange construct \$176,300
11	MD 3 Robert Crain Highway PG County Line to MD 32	MD	Yes 6.4	Divided highway reconstruct \$938,200
12	MD 4 Southern MD Boulevard Calvert County line to MD 258	MD	No 1.9	Divided highway reconstruct with access control improvements \$119,800
13	MD 10 Arundel Expressway Directional ramp to Eastbound MD 100	MD	No 0.3	Ramp construct \$35,500

# HIGHWAY NEEDS INVENTORY

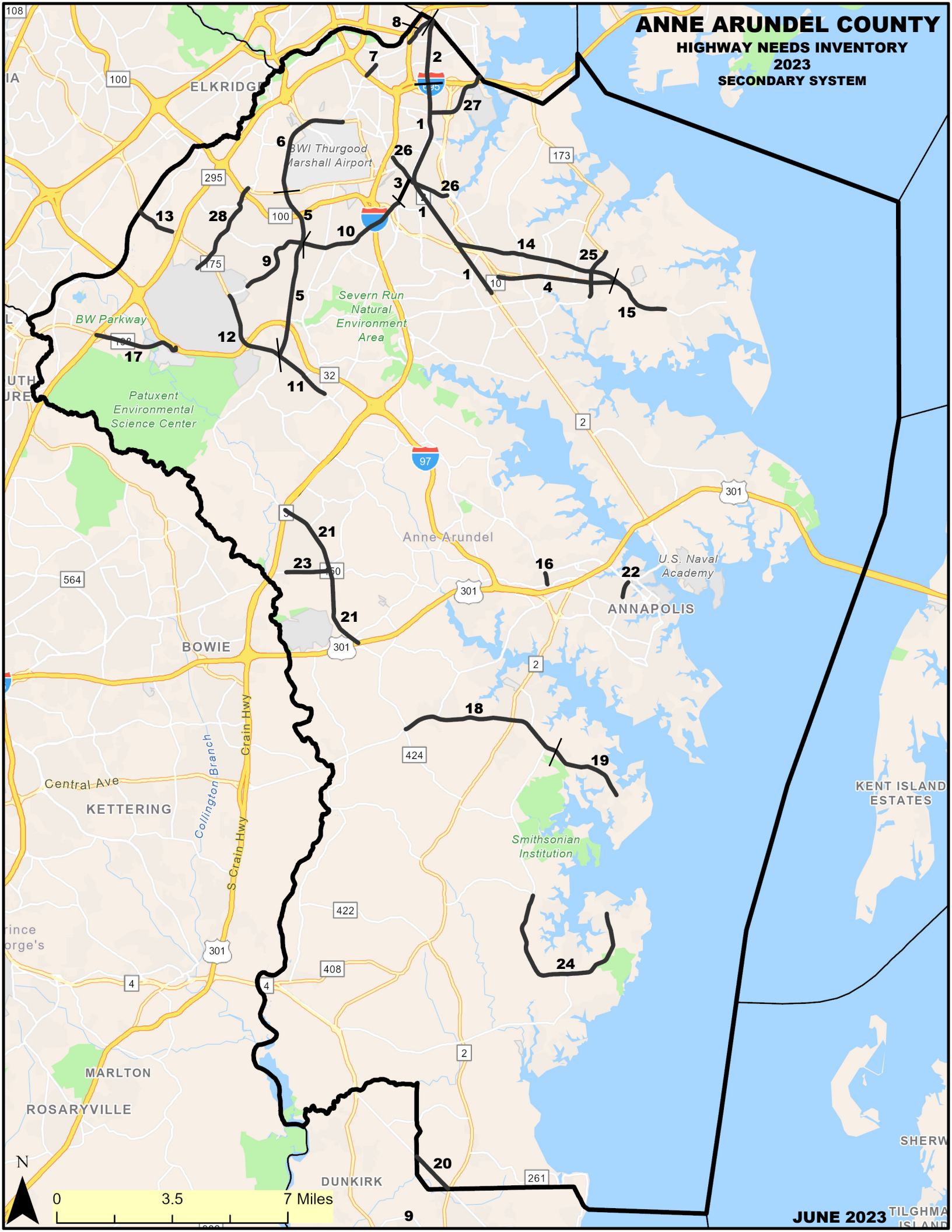
Anne Arundel County - Primary

(Revised 2023)

Map Ref.	Route-Route Name Limits	County Priority Length	Improvement Type Cost (\$000)
14	MD 32 Savage Road MD 175 to MD 295	No 4.3	Freeway reconstruct \$166,800
15	MD 32 Savage Road MD 295 to Howard County line	No 1.1	Divided highway reconstruct \$32,500
16	MD 100 No Name Howard County line to I-97	Yes 6.8	Freeway reconstruct (Include interchanges) \$745,700
17	MD 295 Baltimore-Washington Parkway South of MD 100 to I-195	Yes 3.3	Freeway reconstruct \$228,400
18	MD 295 Baltimore-Washington Parkway At MD 100	No 0.5	Interchange reconstruct \$223,900
19	MD 295 Baltimore Washington Parkway At West Nursery Road	No 0.5	Interchange reconstruct \$97,300
20	MD 665 Aris Allen Blvd. I-595 to MD 2	No 1.6	Freeway reconstruct \$394,600
21	MD 695 Patapsco Freeway West of MD 10 to I-895B (Spur)	No 1.4	Freeway reconstruct \$216,000
22	US 50 Blue Star Memorial Highway MD 70 to Begin Toll Maintenance	Yes 6.7	Freeway reconstruct/Managed Lanes \$529,900



# ANNE ARUNDEL COUNTY HIGHWAY NEEDS INVENTORY 2023 SECONDARY SYSTEM



# HIGHWAY NEEDS INVENTORY

Anne Arundel County - Secondary

(Revised 2023)

Map Ref.	Route-Route Name Limits	County	Priority Length	Improvement Type Cost (\$000)
1	MD 2 Governor Ritchie Highway MD 10 to MD 695	No	7.2	Multi-lane reconstruct \$163,100
2	MD 2 Governor Ritchie Highway MD 695 to Baltimore City line	No	1.9	Multi-lane reconstruct \$75,400
3	MD 3 BU Crain Highway 5th Avenue to MD 2	No	2.3	Two lane reconstruct with access management \$68,100
4	MD 100 Paul T. Pitcher Memorial Highway MD 10 to MD 177	No	3.7	Freeway reconstruct (includes interchanges) \$539,500
5	MD 170 Telegraph Road MD 175 to MD 176	Yes	5.2	Two lane reconstruct with access management \$108,500
6	MD 170 Aviation Boulevard MD 176 to MD 162	No	3.5	Multi-lane reconstruct \$70,600
7	MD 170 Camp Meade Road I-695 to MD 648	No	0.4	Two lane reconstruct with access management \$7,400
8	MD 170 Camp Meade/Belle Grove Road I-895 to MD 2	No	1.0	Two lane reconstruct with access management \$30,500
9	MD 174 Reece Road Begin state maintenance to MD 170	No	2.5	Two lane reconstruct with access management \$76,400
10	MD 174 Quarterfield Road MD 170 to MD 3 Bus	No	3.5	Multi-lane reconstruct \$98,000
11	MD 175 Annapolis Road Burns Crossing Rd to MD 170	No	1.8	Multi-lane reconstruct \$51,500
12	MD 175 Annapolis Road MD 170 to Reece Road	Yes	2.7	Multi-lane reconstruct \$160,800
13	MD 175 Jessup Road Race Road to Howard County line	No	1.2	Two lane reconstruct with access management \$37,400
14	MD 177 Mountain Road MD 2 to MD 100	Yes	5.1	Multi-lane reconstruct \$137,200

# HIGHWAY NEEDS INVENTORY

Anne Arundel County - Secondary

(Revised 2023)

Map Ref.	Route-Route Name Limits	County	Priority Length	Improvement Type Cost (\$000)
15	MD 177 Mountain Road MD 100 to South Carolina Avenue	No	1.8	Multi-lane reconstruct \$66,500
16	MD 178 Generals Highway MD 450 to Bestgate Road	No	0.3	Multi-lane reconstruct \$9,100
17	MD 198 Laurel/FT Meade Road MD 295 to MD 32	Yes	2.7	Multi-lane reconstruct (includes interchange at MD 295) \$209,800
18	MD 214 Central Avenue MD 424 to MD 468	No	4.8	Two lane reconstruct with access management \$66,100
19	MD 214 Central Avenue MD 468 to Triton Beach Road	Yes	2.8	Two lane reconstruct with access management \$86,600
20	MD 260 Chesapeake Beach Road Calvert County line to Calvert County line	No	1.4	Multi-lane reconstruct \$21,400
21	MD 424 Davidsonville Road I-595 (US 50) to MD 3	Yes	4.9	Multi-lane reconstruct \$149,100
22	MD 435 Taylor Avenue Begin State maintenance to MD 70	No	0.5	Two lane reconstruct with access management \$10,200
23	MD 450 Defense Highway Baldwin Avenue to MD 424	No	1.3	Multi-lane reconstruct \$46,500
24	MD 468 Shadyside Rd/Muddy Creek Road Begin SHA maintenance at Shady Side to MD 255	No	6.2	2 lane reconstruct \$130,800
25	MD 607 Magothy Bridge Road Begin State Maintenance to MD 173	No	1.5	Multi-lane reconstruct \$33,300
26	MD 648 E Baltimore/Annapolis Boulevard MD 10 to Begin Divided Highway 0.3 mile south of I-97	No	2.0	Two lane reconstruct with access management \$51,800
27	MD 710 East Ordnance Road MD 2 to Baltimore City line	No	2.2	Multi-lane reconstruct \$39,000

# HIGHWAY NEEDS INVENTORY

Anne Arundel County - Secondary

(Revised 2023)

Map Ref.	Route-Route Name Limits	County Length	Priority	Improvement Type Cost (\$000)
MD 713	Rockenbach Road / Ridge Road / Arundel Mills Blvd	No	Multi-lane reconstruct	
28	Begin State Maintenance (Ft. Meade) to MD 176	3.1		\$89,600