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INTRODUCTION

The Maryland Transportation Authority (MDTA), in coordination with the Federal Highway Administration (FHWA), has initiated the Chesapeake Bay Crossing Study: Tier 1 National Environmental Policy Act (NEPA), referred to as the “Bay Crossing Study.” As announced by Governor Larry Hogan, the Bay Crossing Study is the critical first step to begin addressing existing and future congestion at the William Preston Lane Jr. Memorial Bridge (Bay Bridge) and its approaches along US 50/US 301. The study encompasses a broad geographic area, spanning nearly 100 miles of the Chesapeake Bay (the Bay) from the northern-most portion in Harford and Cecil counties to the southern border with Virginia between St. Mary’s and Somerset counties (**Figure 1-1**).

1.1 IMPORTANCE OF A CHESAPEAKE BAY CROSSING

The Chesapeake Bay is one of Maryland’s most iconic and significant environmental resources. Comprising a 64,000 square mile watershed spanning six states and the District of Columbia, the Bay holds more than 18 trillion gallons of water and is the largest estuary in the United States. The Bay maintains a functioning ecosystem that filters water and provides suitable habitat for diverse and abundant life. In an effort to support Bay restoration efforts, many State and Federal agencies, including the Maryland Department of Transportation (MDOT), have committed to achieving specific pollution-reduction targets by 2025. As supporters of Bay restoration, the MDTA and FHWA recognize the importance of the Chesapeake Bay and the major role it plays in the lives of those living in its watershed, and beyond.

The Bay not only supports thousands of animal and plant species, but it also provides flood protection, serves as a transportation route for cargo and cruise ships, and plays a major role in Maryland’s economy via commercial fishing activities, recreational, educational and tourism opportunities. Each year, 500 million pounds of seafood (namely blue crabs, clams and oysters) are harvested from the Bay, adding nearly \$600 million to Maryland's economy. Recreational boating and fishing are also popular activities in Maryland. According to the Chesapeake Bay Foundation (CBF) and the 2009 Economic Impact of Maryland Boating report, roughly \$2 billion and 32,000 jobs are generated each year in Maryland due to the recreational boating industry. Additionally, in 2014, CBF estimated that implementation of the Chesapeake Clean Water Blueprint, a plan for improving the value of the Bay’s natural services, will increase Maryland’s economy by \$4.6 billion annually, from \$15.8 to \$20.4 billion (CBF, 2014).

Accessible through the Bay, Maryland's Port of Baltimore is recognized as an ideal location for international trade, as it is only one of two Eastern U.S. ports where the main shipping channel is dredged to a depth of 50 feet. The Port generates nearly \$3 billion in annual wages and salary, and supports 13,650 direct jobs and 127,000 jobs connected to Port work (Maryland State Archives, 2017). In January 2017, the Port handled a record-setting tonnage of cargo and number of loaded containers, moving key exports such as coal, waste paper, and automobiles, and imports including automobiles, farm and construction machinery, and petroleum products (Maryland State Archives, 2017).

Additionally, the Port of Baltimore is home to Cruise Maryland, a passenger cruise terminal that offers year-round trips and welcomes a variety of cruise lines. The Port of Baltimore's cruise industry supports over 500 jobs and brings in over \$90 million to Maryland's economy (Maryland State Archives, 2017).

The Bay provides a variety of activities and opportunities for visitors and Marylanders alike; however, the Bay also presents a clear transportation barrier between Maryland's Western and Eastern Shores. In 1952, the first highway connection between Maryland's Western Shore in Anne Arundel County and Eastern Shore in Queen Anne's County was built as a two-lane bridge along US 50/US 301 across the Chesapeake Bay.

In an effort to keep up with the growing travel demand, a second parallel Bay Bridge carrying three lanes of traffic opened in 1973. Today, the nearest alternative roadway routes are over 45 miles north of the Bay Bridge along US 40 or I-95 across the Susquehanna River. Using these routes, travelers must head north and around the Bay in order to head south towards some of the coastal destinations. The nearest southern alternative roadway route is in Virginia, 140 miles south of the Bay Bridge via the Chesapeake Bay Bridge-Tunnel along US 13.

As Maryland's only crossing of the Chesapeake Bay, the Bay Bridge plays a major role in the State's regional transportation system and is vital in supporting the diverse regional economy. The Western Shore is characterized by its major metropolitan employment centers and surrounding communities in the Baltimore-Washington region, complemented by agricultural, seafood and waterfront industries. By contrast, the Eastern Shore is best known for its farming and agricultural enterprises, seafood and waterfront industries, as well as tourism and recreational activities in coastal areas.

Throughout the years, as travel across the Bay has become more common, employment centers have also become more accessible to residents of both shores. Summer vacations along the coast have also turned into household norms. However, increased use of the Bay Bridge has meant that daily commuters, regional travelers and vacationers have experienced increased congestion, often struggling to reach their destinations with low confidence in travel times. Aging infrastructure, capacity limitations at the existing bridge, and an increasing demand for trips across the Bay will continue to exacerbate congestion and delays currently experienced by the traveling public.

As the area's population grows, barriers to crossing the Bay Bridge are expected to intensify, threatening to jeopardize the functionality of the existing connection between the shores. If this primary link between the Eastern Shore and the Baltimore and Washington metropolitan areas becomes seriously degraded or unavailable due to safety or performance issues, negative consequences with wide-ranging effects are foreseeable for Marylanders and visitors alike. For example, populations dependent upon a reliable Bay crossing that live on the Eastern Shore would experience disadvantages in access to employment opportunities located on the Western Shore, resulting in potential job and financial losses. Additionally, travelers that typically head east towards recreational, commercial, and other locations on the Eastern Shore or the Atlantic coast may be compelled to start choosing alternate travel destinations. In summary, an inadequate connection between the shores increases the likelihood for negative impacts to communities and a reduction in the State's local and regional economies.

1.2 PREVIOUS ACTIONS AND STUDIES

To address congestion at the Bay Bridge, the MDTA has adopted a number of transportation management operation practices, including implementing contra-flow (reversible lanes) during peak periods, eliminating the westbound toll plaza in the 1980s, implementing electronic toll collection at the toll plaza (including dedicated "electronic toll collection only" lanes), and developing extensive promotional and educational efforts aimed at encouraging travelers to take trips during off-peak periods. As of May 2020, MDTA has implemented all electronic tolling (AET) at the Bay Bridge, which replaced the former toll plaza with an overhead tolling gantry.

In 2016, the Governor announced the MDTA's initiation of this Tier 1 NEPA Study since congestion had continued to worsen at the Bay Bridge. An important distinction between the Tier 1 NEPA Study and previous efforts described below is that this study will result in the identification of a potential Bay crossing corridor location through qualitative, high-level analysis and extensive agency, stakeholder, and public involvement following the NEPA process. Previous studies were focused on gathering data to begin identifying potential needs at the existing Bay crossing and not at identifying specific solutions for implementation.

This Tier 1 NEPA Study will utilize applicable information from the following previous MDTA studies and analyses assessing potential Bay crossings, as appropriate:

- **2004 Transportation Needs Report:** The MDTA initiated a study of transportation and safety needs associated with the existing Bay Bridge in 2001, which resulted in preparation of the 2004 Transportation Needs Report. This study found that the bridge generally meets current geometric design standards, although the lack of roadside shoulders impacts the vehicular capacity of the bridge during incident management activities. The study also showed that the Bay Bridge carries approximately 53 percent more traffic on an average summer weekend day than on an average weekday.
- **2006 Task Force Report:** The MDTA formed a Task Force in 2005 to examine the range of issues to help educate stakeholders about the need for additional capacity across the Bay. The Task Force recommended that more detailed studies be undertaken and subsequent studies were conducted to evaluate the potential for transit or ferry service to provide capacity and alleviate

congestion (e.g., September 2007 Analysis of Transit Only Concepts to Address Traffic Capacity Across the Chesapeake Bay).

- **2015 Life Cycle Cost Analysis Study:** This study was conducted by the MDTA in 2015 to evaluate the travel operations and structural condition of the Bay Bridge, understand the costs and time frame associated with implementing future Bay Bridge improvements, and evaluate complementary improvements that would be needed if/when (a) new structure(s) were built including mainline US 50/301 improvements. Build recommendations were not included in this study, but given the scope of the "build options" and the critical environmental features in proximity to the project, the necessity of a NEPA Study was stated regarding any proposed improvements.
- **2020 Electric Ferry Study:** MDTA conducted this study, separate from the Bay Crossing Study, at the request of the Maryland General Assembly to examine the feasibility of electric ferry service as an alternative to a third crossing for the Chesapeake Bay. The study found that a MDTA-operated ferry service utilizing all-electric ferries is not a feasible alternative to a third crossing of the Chesapeake Bay.

1.3 THE TIERED NEPA PROCESS

This study will follow formal regulatory procedures in accordance with the Council on Environmental Quality ([40 CFR Parts 1500-1508](#)) and FHWA NEPA regulations ([23 CFR Part 771](#)) and result in the preparation of a Tier 1 Environmental Impact Statement (EIS). The Tier 1 Study is expected to identify a Recommended Preferred Corridor Alternative for a potential Bay Crossing. A Tier 2 Study will follow with consideration of possible alignments within the Recommended Preferred Corridor Alternative if and when appropriate.

"Tiering" is defined in 40 CFR 1508.28 as, "[...]the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared."

Consistent with this regulatory definition, a tiered environmental review process is being undertaken due to the regional needs to be addressed by the proposed action, influence of the Bay Crossing from both an environmental and socio-economic perspective, and expansive size of the study's geographical area.

Furthermore, 40 CFR 1508.28 notes that "Tiering is appropriate when the sequence of statements or analyses is:

- (a) From a program, plan or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.
- (b) **From an environmental impact statement on a specific action at an early stage (such as need and site selection)** to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps

the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.” (Emphasis added.)

FHWA regulations in 23 CFR 771.111(g) further describe the circumstances in which a tiered NEPA analysis is most appropriate. Specifically, FHWA notes that a Tier 1 EIS “...would focus on broad issues such as general location, mode choice, and areawide air quality and land use implications of the major alternatives. The second tier would address site-specific details on project impacts, costs, and mitigation measures.”

Thus, this Tier 1 document is intended to identify the general location of a new Bay Crossing so that a site-specific study in Tier 2 can avoid further consideration of the corridor location decision made in Tier 1. This will allow the Tier 2 study to focus on the issues ripe for discussion, such as the detailed study of environmental impacts, cost and mitigation for alternative alignments within a corridor.¹

1.3.1 Tier 1

The Tier 1 NEPA Study represents the MDTA’s first step within a two-tiered NEPA approach and includes a high-level, qualitative review of cost, engineering, and environmental data. The EIS prepared in the Tier 1 NEPA Study will define existing and future transportation conditions and needs at the existing Bay Bridge, identify broad corridor alternatives (including a “No-Build” alternative), document the corridor alternative screening process, identify the most reasonable Corridor Alternatives Retained for Analysis (CARA), evaluate potential environmental impacts of the CARA, and present a recommendation for one preferred corridor alternative to be advanced into a Tier 2 NEPA Study. Decisions resulting from the Tier 1 NEPA Study (e.g., deciding upon a preferred corridor alternative for a potential future proposed action) will address broad planning level issues consistent with a corridor-level analysis for both potential corridor alternatives and environmental impacts. The length and exact limits of the two-mile wide corridor alternatives analyzed in Tier 1 will not be binding for a project-level Tier 2 analysis, depending on the corridor alternative selected, the proposed project engineering design, and the nature of the key resources identified within that corridor. The corridor alternative decision in Tier 1 will assist with the future identification of logical termini for a potential new crossing by establishing potential connections to the existing transportation network. The Tier 2 analysis will focus on alternatives within a selected corridor to the maximum extent practicable. It is possible that changes to the termini of a potential new crossing or alignment shifts to avoid and minimize impacts could require minor adjustments to the definition of a corridors selected following the Tier 1 analysis.

The Tier 1 NEPA Study evaluation involved close coordination with regulatory and resource agencies, stakeholders, and the public to identify critical resources and assist in determining key mobility, environmental, and other impacts associated with potential corridor alternatives. Possible adverse environmental impacts that could occur as a result of moving forward with a preferred corridor will be identified to help inform site-specific, potential avoidance, minimization and mitigation opportunities. As with all NEPA analyses, the Tier 1 Study will take into account comments from cooperating and participating State and Federal agencies as well as the public.

¹ Additionally, guidance from NCHRP Project 25-25, Task 38, *Guidelines on the Use of Tiered Environmental Impact Statements for Transportation Projects* was considered.

Specific activities for the Tier 1 Study include:

- Establishing Purpose and Need
- Evaluating a range of alternatives across the Bay using broad-scale engineering and environmental information
- Including public involvement and comment
- Identifying the Recommended Preferred Corridor Alternative
- Preparing a Tier 1 EIS
- Issuing a Record of Decision

1.3.2 Tier 2

Following issuance of a Record of Decision at the conclusion of the Tier 1 NEPA Study, the MDTA may advance a Tier 2, project-level NEPA Study. In comparison to the more general Tier 1 analyses, a Tier 2 NEPA Study would result in decisions made on a project-level (site-specific) analysis, through evaluation of specific alignments within the preferred corridor alternative selected in the Tier 1 NEPA Study. Tier 2 analysis would include detailed engineering design of alternative alignments and the assessment of potential environmental impacts associated with those alignments. Consistent with NEPA's requirements, agency and public involvement will be an essential part of the Tier 2 NEPA Study.

In the Tier 2 NEPA Study, avoidance and minimization measures will be considered and recommended; the potential for unavoidable adverse direct, indirect and cumulative impacts will be documented; and appropriate permitting and mitigation measures for any unavoidable impacts will be identified. Results of the analyses conducted during Tier 2 will inform decisions regarding engineering for a specific crossing and supporting transportation network, cost considerations, and mitigation. Final project design and construction will follow final agency decisions based on completion of Tier 2 NEPA Study documents. Examples of regulatory activities resulting from the Tier 2 NEPA Study may include Section 4(f) resource avoidance (to the extent such resources are involved), Section 106 consultation and negotiation of a Memorandum of Agreement to address impacts to historic and cultural resources, if necessary, and other specific permitting decisions for applicable water, species, and other natural resources matters.

Specific activities for a Tier 2 Study would include:

- Refinement of Purpose and Need to reflect project-level proposals
- Identification of alignments within the Recommended Preferred Corridor Alternative identified in Tier 1
- More detailed engineering of alternatives, evaluation of crossing types, and specific assessment of potential environmental impacts
- Public and cooperating agency involvement and response to all comments
- Selection of a Preferred Alignment within the Preferred Corridor
- Identification of appropriate mitigation measures
- Preparation of a Tier 2 EIS
- Issuing a Record of Decision