Chesapeake BAY CROSSING STUDY

TIER 2 NEPA

Maryland Transportation Authority

MDTA

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

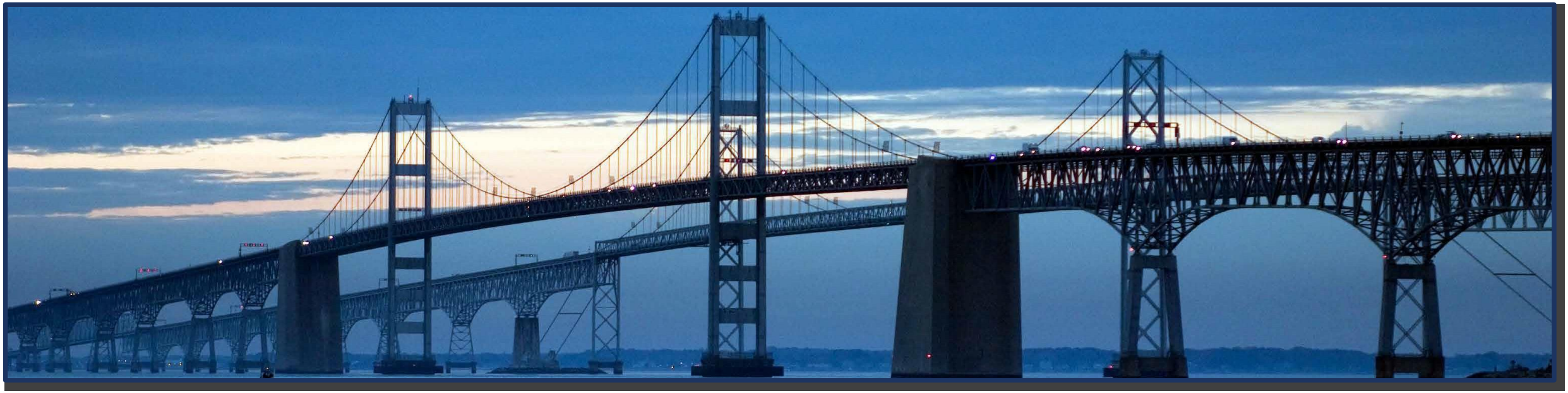
Presentation to the

Baltimore Regional Transportation Board

March 25, 2025

Agenda

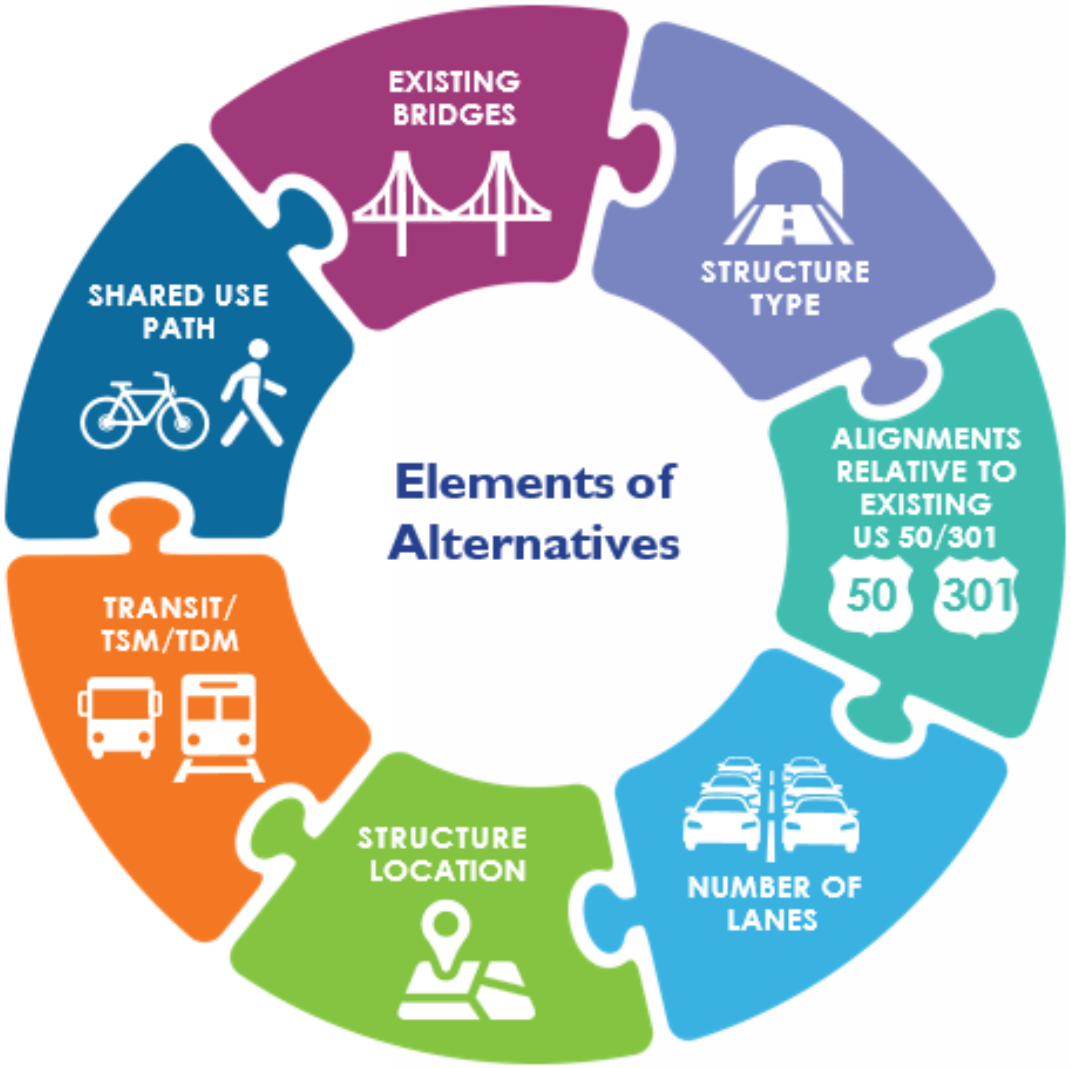
- Review Study Timeline
- Alternatives Retained for Detailed Study (ARDS)
- Next Steps



Study Timeline

Date	Activity
February 2024	BRTB Resolution on Preliminary Purpose & Need Statement
June 2024	Cooperating agencies concurred on the Preliminary Purpose & Need Statement
November 2024	Notice of Intent (NOI) published in Federal Register (included proposed ARDS)
December 2024	Public Open Houses
February 2025	Presented ARDS to Cooperating and Participating Agencies
March 2025	MDTA requests concurrence from Cooperating agencies on the ARDS
Fall 2025	Public Notice of Availability for Draft EIS
	Public Hearings on Draft EIS and MDTA Recommended Preferred Alternative
Spring – Summer 2026	MDTA requests concurrence from Cooperating agencies on Preferred Alternative and Conceptual Mitigation Plan
Fall 2026	Public Notice of Availability of Final EIS and Record of Decision (ROD)

Alternatives Elements



The MDTA considered seven key elements to develop alternatives.

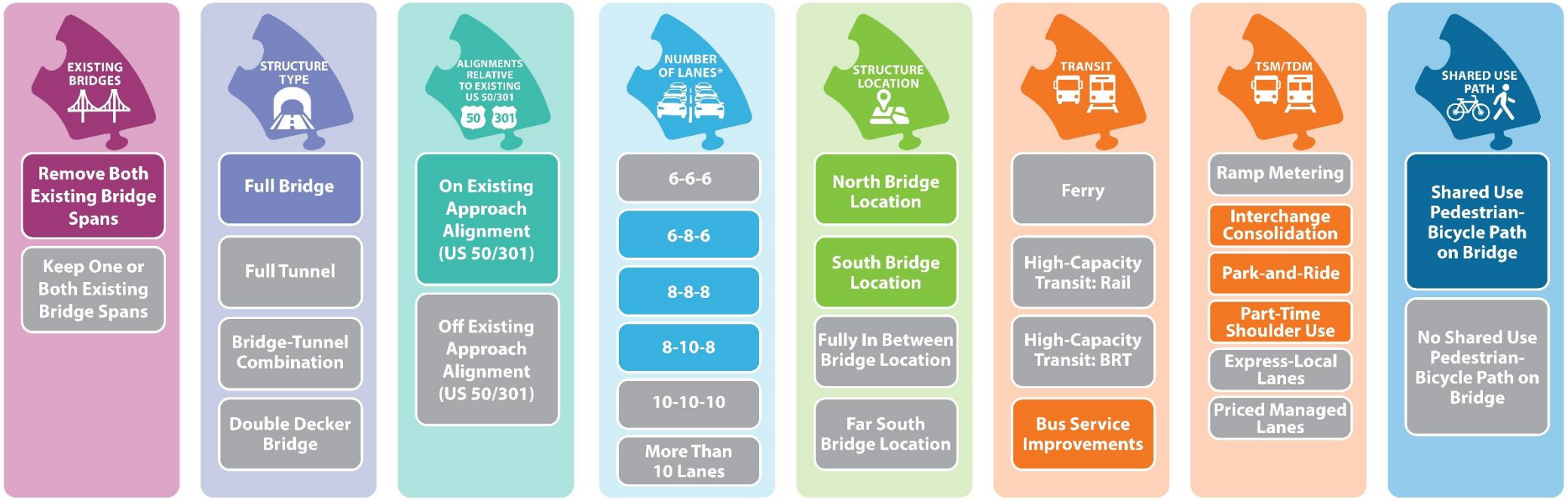
Engineering analysis of the elements was conducted using:

- Updated traffic counts,
- Land use data, and
- Preliminary cost and impact assessments.

Key Elements Overview

OPTIONS FOR KEY ELEMENTS

The MDTA evaluated the following options for each key element. Options shown in color were recommended in the NOI.

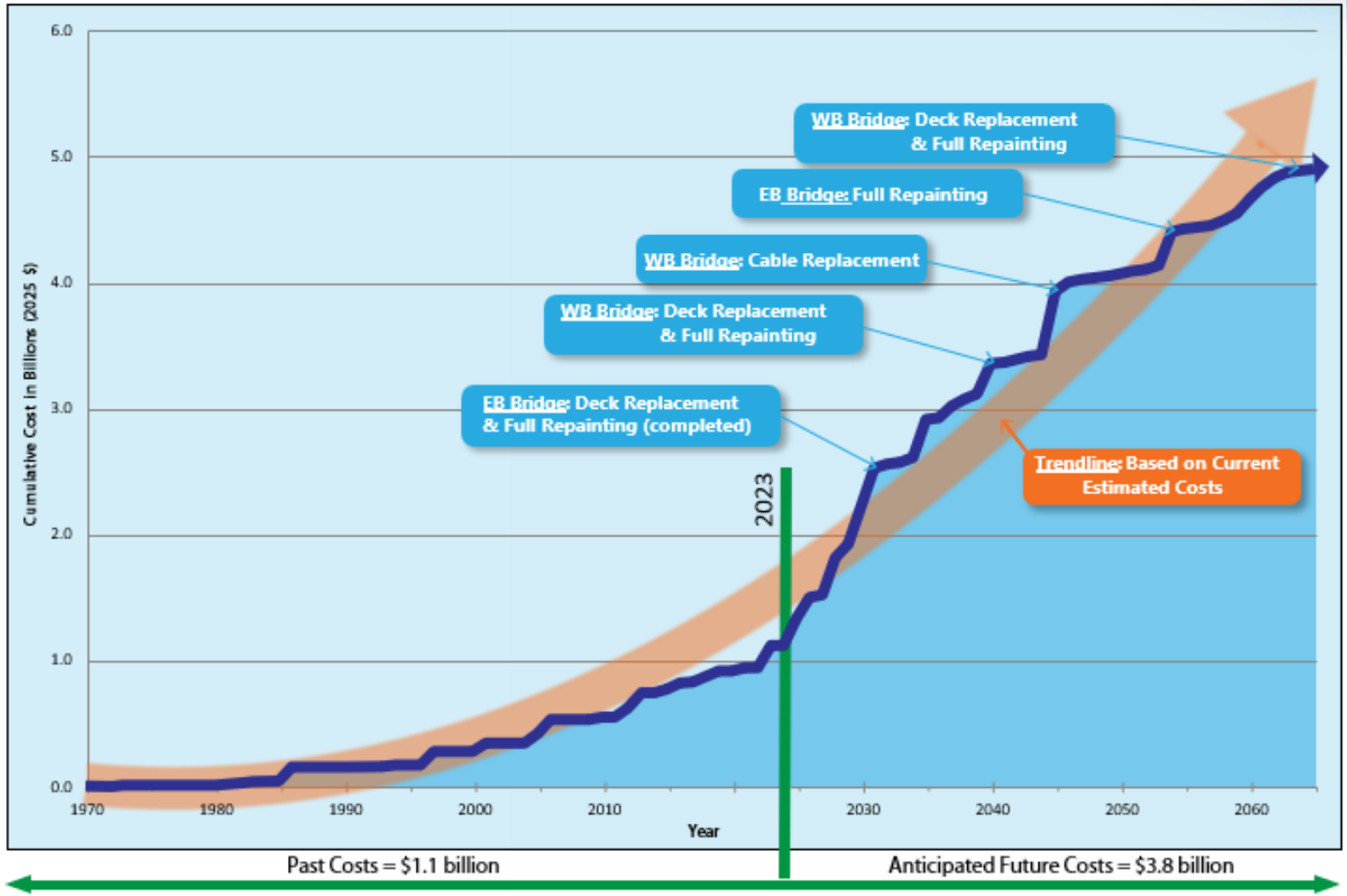


Color = recommended Gray = not recommended

Lane Nomenclature

Existing Bridges: Remove Existing Bay Bridge Spans

✓ RETAINED



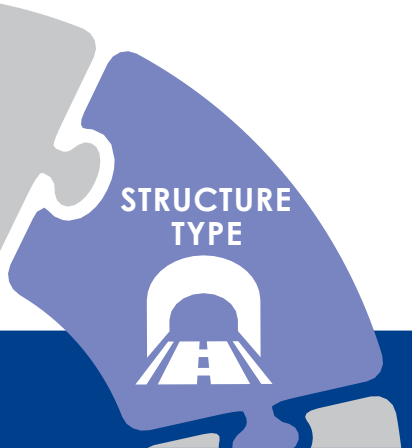
EXISTING BRIDGES

Structure Type: Full Bridge

✓ **RETAINED**

Replace the existing bridge (both spans) with a new bridge (two spans)

- Advantages of a full bridge compared to the other structure types evaluated include:
  - **Mobility**
    - Opportunity for inclusion of a shared use path
    - Ability to transport hazardous materials across the Bay
  - **Environmental Responsibility –** smaller footprint
  - **Cost –** lower cost
- Advantages of having two spans instead of one include:
  - Redundancy
  - Flexibility in funding
  - Maintenance of traffic during construction, maintenance, and inspections
  - Ability to use existing right-of-way with staged construction



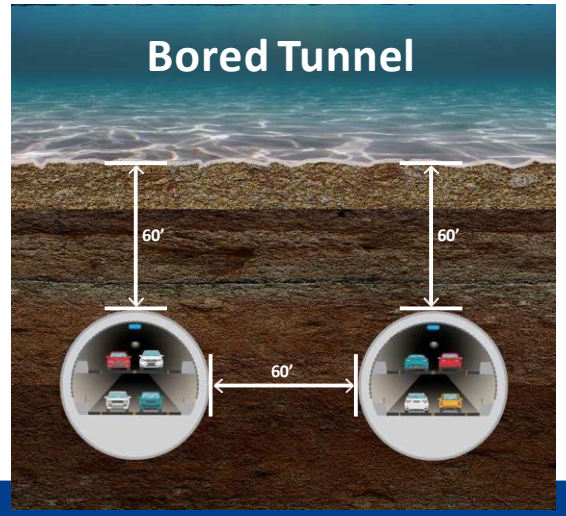
Structure Type: Tunnel

✖ NOT RETAINED

- Substantial environmental impacts to the Bay/resources on shorelines.
- Requires large ventilation islands or larger/ additional bores.
- Mobility challenges:
  - Cannot accommodate a shared use path.
  - Restrictions on hazardous materials.
- Steeper grades resulting in reduced speeds for trucks.
- Less flexibility for maintenance of traffic and incident management.
- Tunnel would be 2 to 3.5 times more expensive

	8 Lanes	10 Lanes
Bridge	$7.3 billion	$8.4 billion
Tunnel	$17.0 billion	$21.0 billion

Tunnel Types Evaulated



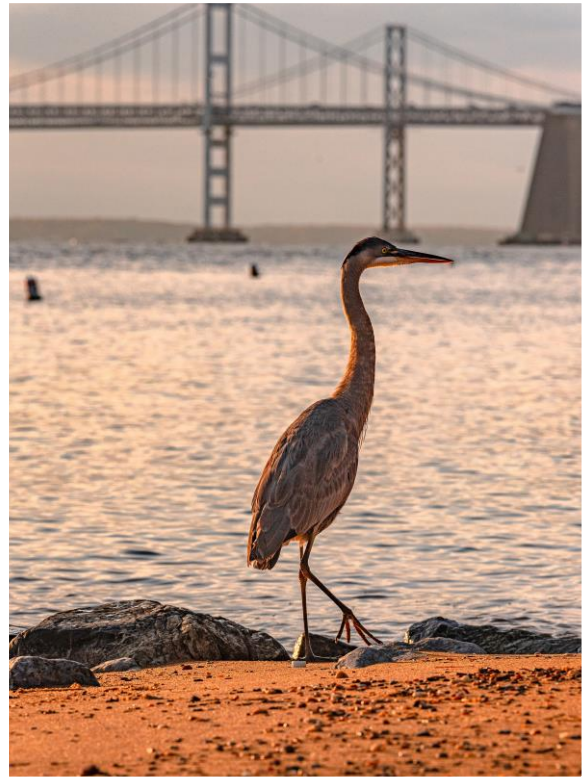
STRUCTURE TYPE

Alignments Relative to Existing US 50/301

✓ MDTA PROPOSES RETAINING US 50/301 ON THE EXISTING ALIGNMENT

To avoid substantial impacts to socioeconomic and natural environmental resources, the MDTA is not considering alignments off the existing US 50/31 roadway.

- The MDTA will consider alternatives that widen along the existing centerline to accommodate the proposed number of lanes.
- Staying on the existing alignment would avoid and minimize impacts to many resources , including:
  - Residential communities
  - Sandy Point State Park
  - Terrapin Nature Park
  - Holly Beach farm
  - The Bay Bridge Airport
  - Wetlands



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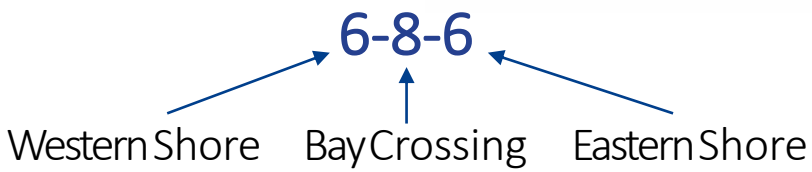
ALIGNMENTS RELATIVE TO EXISTING US 50/301

50 301

Number of Lanes

- The lane combinations studied are shown using three numbers. For example:



- The existing Bay Bridge has less capacity than the approach roadways due to vertical grade, lack of shoulders, and weather impacts to two-way operations, which is why some combinations have a higher number of lanes on the bridge.
- Based on analysis, the 6-6-6 and 10-10-10 lane combinations are not being advanced.

	Non-Summer Weekday (Tuesdays & Wednesdays)			
	Eastbound		Westbound	
Scenario	Maximum Queue (miles)	Duration of Queues > 1 Mile (Hours)	Maximum Queue (miles)	Duration of Queues > 1 Mile (Hours)
Existing (2022)				
Existing*	0	0	0	0
Projected (2045)				
No-Build*	4.1	4	4.9	11
6-6-6	4.3	4	1.2	2
6-8-6	0.0	0	0.0	0
8-8-8	0.1	0	0.0	0
8-10-8	0.0	0	0.0	0
10-10-10	0.0	0	0.0	0

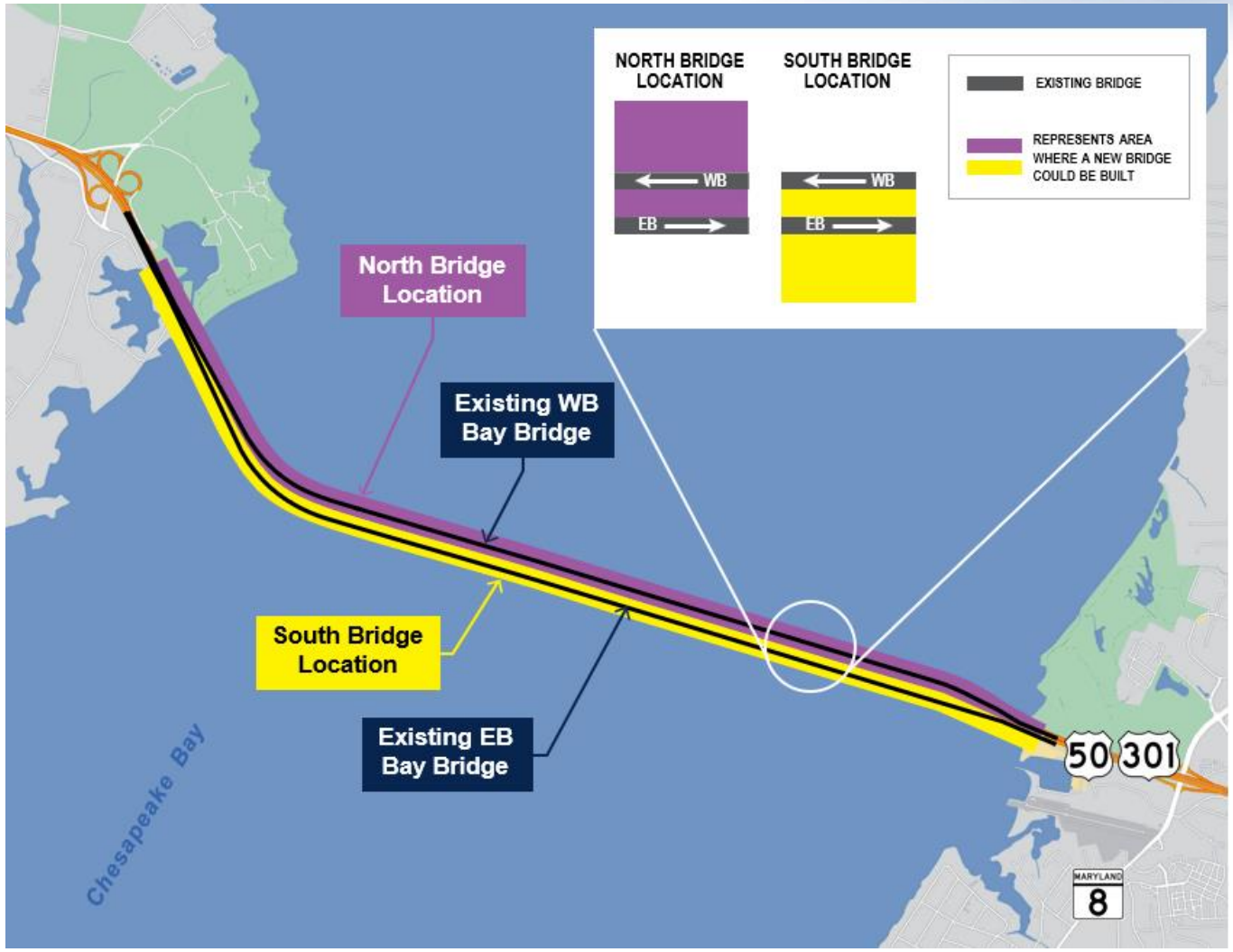
Summer Weekend Day			
Eastbound (Fridays)		Westbound (Sundays)	
Maximum Queue (miles)	Duration of Queues > 1 Mile (Hours)	Maximum Queue (miles)	Duration of Queues > 1 Mile (Hours)
Existing (2022)			
4.8	8	3.5	8
Projected (2045)			
>10	14	>10	14
>10	14	>10	14
7.3	10	8.0	10
7.5	11	8.4	11
0.0	0	0.0	0
0.0	0	0.0	0

NUMBER OF LANES

Structure Location (Bridge)

✓ **RETAINED**

MDTA is retaining both a north and in-between and a south and and in between bridge location



STRUCTURE LOCATION

Bridge Location: Example Bridge Construction Sequencing

Transit Options (Bus Service)

✓ **RETAINED**

Bus service improvement options will be evaluated as part of the retained build alternatives.

- **Enhancements to Bus Service**
  - Local Bus Service
  - Commuter Bus Service
  - Intercity Bus Service

- **Potential Transit Priority Treatments**
  - 24-hour dedicated transit lane
  - Congested-period-only dedicated transit lane
  - Bus-on-shoulder operation
  - Queue jump lane


Source: wikimedia


Source: MDTA


Source: MDTA

Source: MDTA

TRANSIT/
TSM/TDM

Transit Options (Ferry, Rail, and BRT)

✖ NOT RETAINED

Ferry

Vehicular or passenger ferry.

- Ferry service would reduce Bay Bridge traffic volume by 0.7% to 1.1%
- Ferry alternatives would not make substantial improvements to capacity or travel times in combination with a new bridge.

Rail

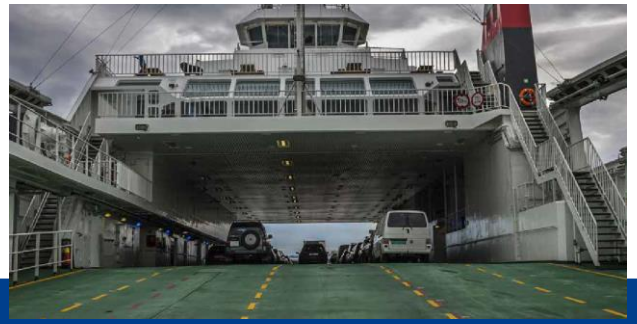
Commuter rail, light rail transit, or heavy rail transit across a new bridge.

- Larger foundations and extensive infrastructure would be needed to connect to existing rail facilities.
- Rail would have extensive environmental impacts and additional cost to provide the new infrastructure.
- Rail would reduce Bay Bridge traffic volume by roughly 0.3% to 0.6%.
- Rail would not make substantial improvements to congestion or travel times in combination with a new bridge.

Bus Rapid Transit (BRT)

BRT in a dedicated transit lane across a new bridge providing reliable, convenient and frequent service.

- Appropriate transit connections for new BRT would be many miles away, requiring new infrastructure with environmental impacts and additional cost.
- BRT would reduce Bay Bridge traffic volume by roughly 0.3% to 0.6%
- BRT would not make substantial improvements to congestion or travel times in combination with a new bridge.



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Transit Options (Shared Use Path)

✓ RETAINED FOR FURTHER CONSIDERATION

The MDTA will consider the safe inclusion of a shared use path along a new bridge.

- A shared use path across a new Bay Bridge would be:
  - A two-way ped/bike facility,
  - Separated from travel lanes/shoulders by a physical barrier with a fall protection system.
- A shared use path could span the full length of the bridge or only partial length from one shore.

Oakland Bay Bridge (San Francisco-Oakland Bay, CA)

Source: Photo by TrailLink user tommyonbike, courtesy of Rails-to-Trails Conservancy

Woodrow Wilson Memorial Bridge (MD)

Source: Photo by TrailLink user mdeplanty, courtesy of Rails-to-Trails Conservancy

ARDS

Draft ARDS are largely the same as what was included in the NOI. Two changes were made:

Structure Location

- The “north and in-between” and the “south and in-between” locations are included in the ARDS
- The “all north” and “all south locations are not recommended in the ARDS.
  - Would result in additional impacts to sensitive resources compared to utilizing the space between the existing bridges for one of the new bridges.

ARDS

TSM/TDM Improvement – Interchange Consolidation

- Interchange consolidation is not recommended as a TSM/TDM improvement in the ARDS.
  - To maintain current access locations for local residents and businesses, interchange consolidation is not recommended.
  - ARDS would not create geometric issues with the existing ramp configurations requiring ramp closures.
  - A number of businesses/land uses are in close proximity to the access points that rely on drive-by customers and would be impacted by eliminating access points.

ARDS

Alternative A (No-Build Alternative) 6-5-6 *No New Transportation Infrastructure*

Build Alternatives *All Build Alternatives Will Include:*

- EXISTING BRIDGES: REMOVE EXISTING BRIDGES
- STRUCTURE TYPE: FULL BRIDGE WITH TWO NEW BRIDGE SPANS
- ALIGNMENTS RELATIVE TO EXISTING US 50/301 (50, 301): ON EXISTING APPROACH ALIGNMENT (US 50/301)
- TRANIST: BUS SERVICE IMPROVEMENTS

Each Build Alternative Will Include One of These Lane Combinations and Bridge Locations:

	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
NUMBER OF LANES	6-8-6	6-8-6	8-8-8	8-8-8	8-10-8	8-10-8
STRUCTURE LOCATION	North and In-Between	South and In-Between	North and In-Between	South and In-Between	North and In-Between	South and In-Between

All Build Alternatives Will Also Consider:

- TSM/TDM: • PART-TIME SHOULDER USE • PARK-AND-RIDE
- SHARED USE PATH: INCLUSION OF SHARED USE PATH ON BRIDGE

Build ARDS

- Structure Locations: one new bridge north of and one in-between the existing bridges.
- Lanes and shoulders: 12 feet wide, and the median would vary.
- SUP: 10 feet wide with 2-foot-wide offsets to the vertical barriers on both sides of the SUP.
- Locations of lane transitions will be identified in the DEIS.

Build ARDS

- Structure Locations: one new bridge south of and one in-between the existing bridges.
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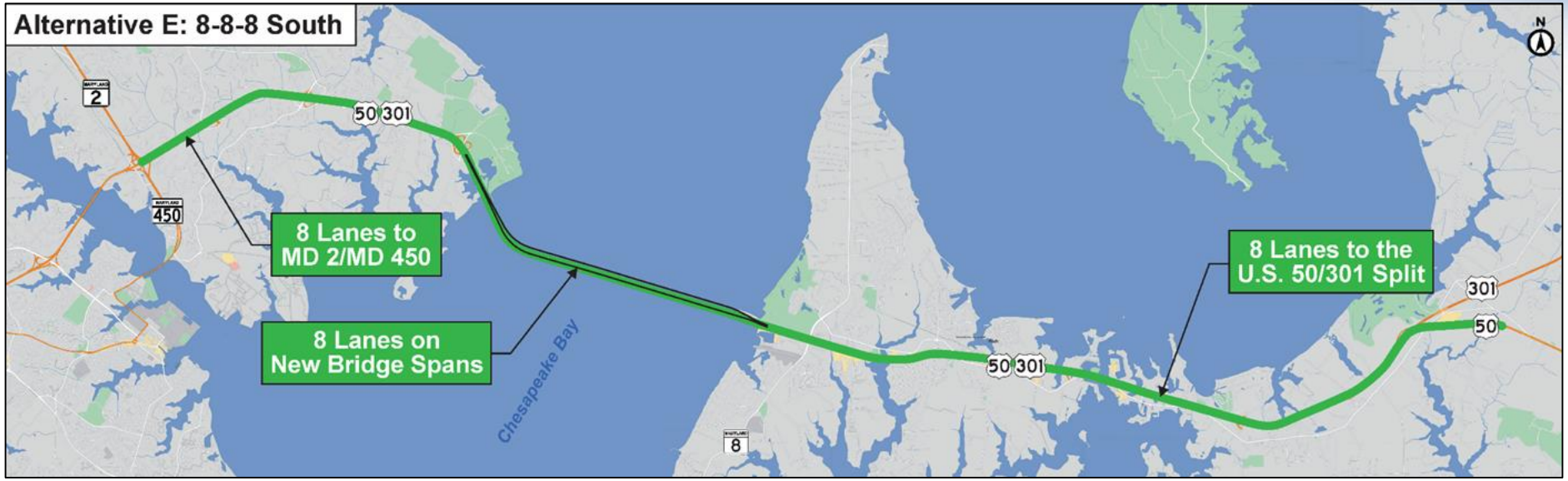
- Western Shore: widening would occur to the outside in both directions.
- Eastern Shore: widening would occur first to the inside in both directions and then to the outside as needed.
- Locations of lane transitions will be identified in the DEIS.

Build ARDS



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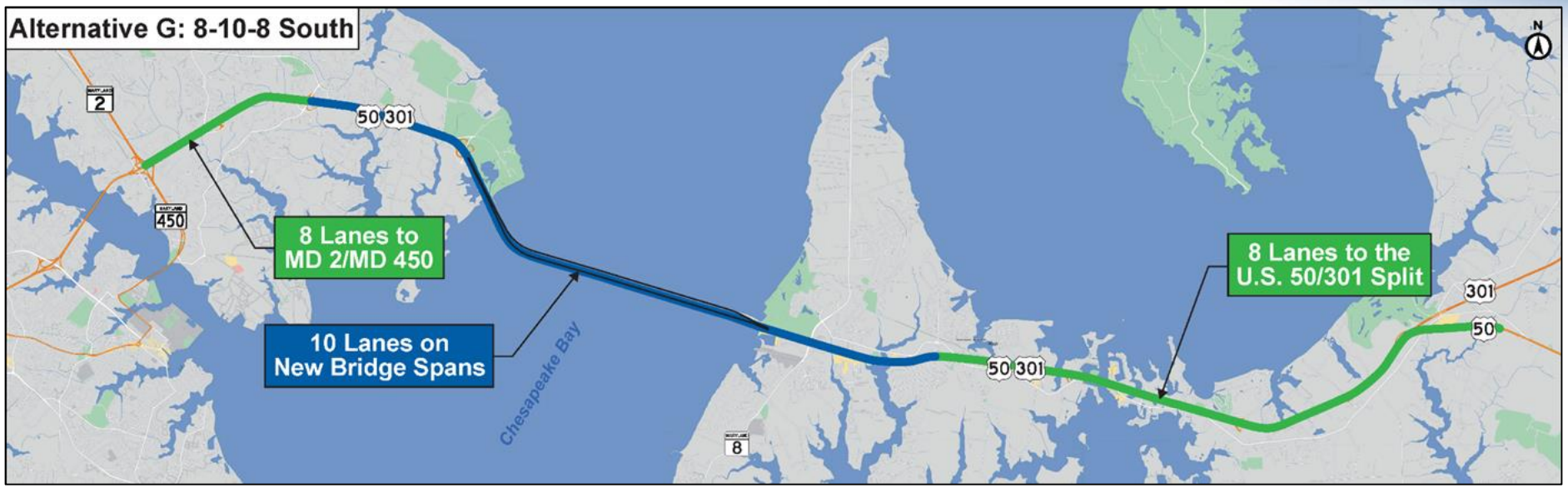

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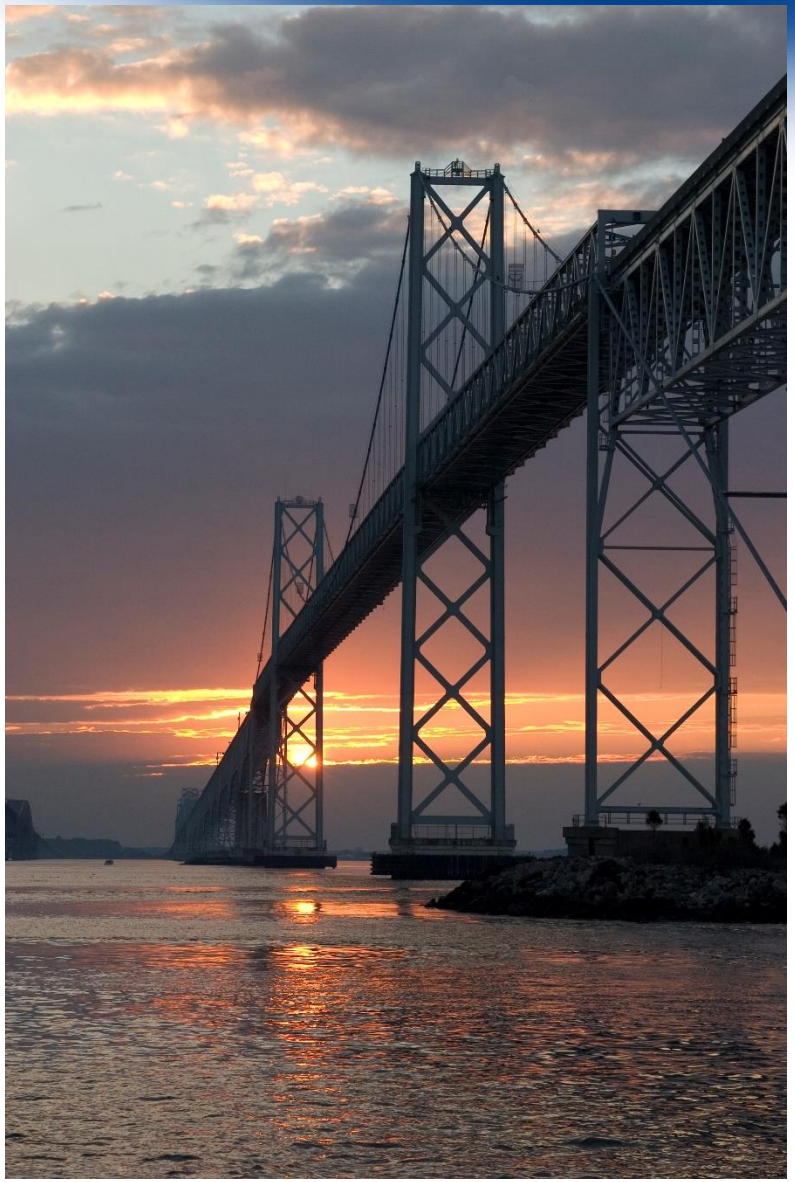
Current Study Activities

- Developing Scoping Report summarizing December 2024 Open Houses and comments received

Next Steps

- Obtain concurrence from agencies on ARDS
- Preparing Draft EIS
- Continued public and stakeholder engagement



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