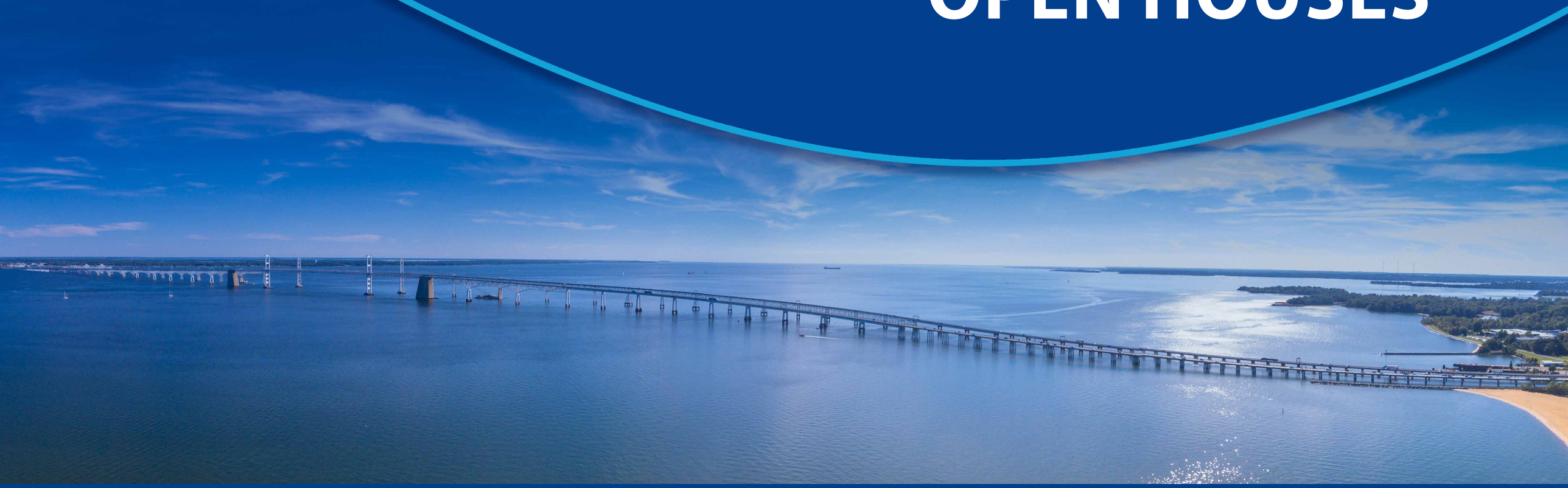
Chesapeake
BAY CROSSING STUDY
TIER 2 NEPA

WELCOME TO THE SEPTEMBER 2023 OPEN HOUSES



Maryland Transportation Authority

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Purpose of Open Houses

Learn about the Study's proposed Purpose & Need
The MDTA is developing purpose and need elements that will be used to evaluate alternatives.

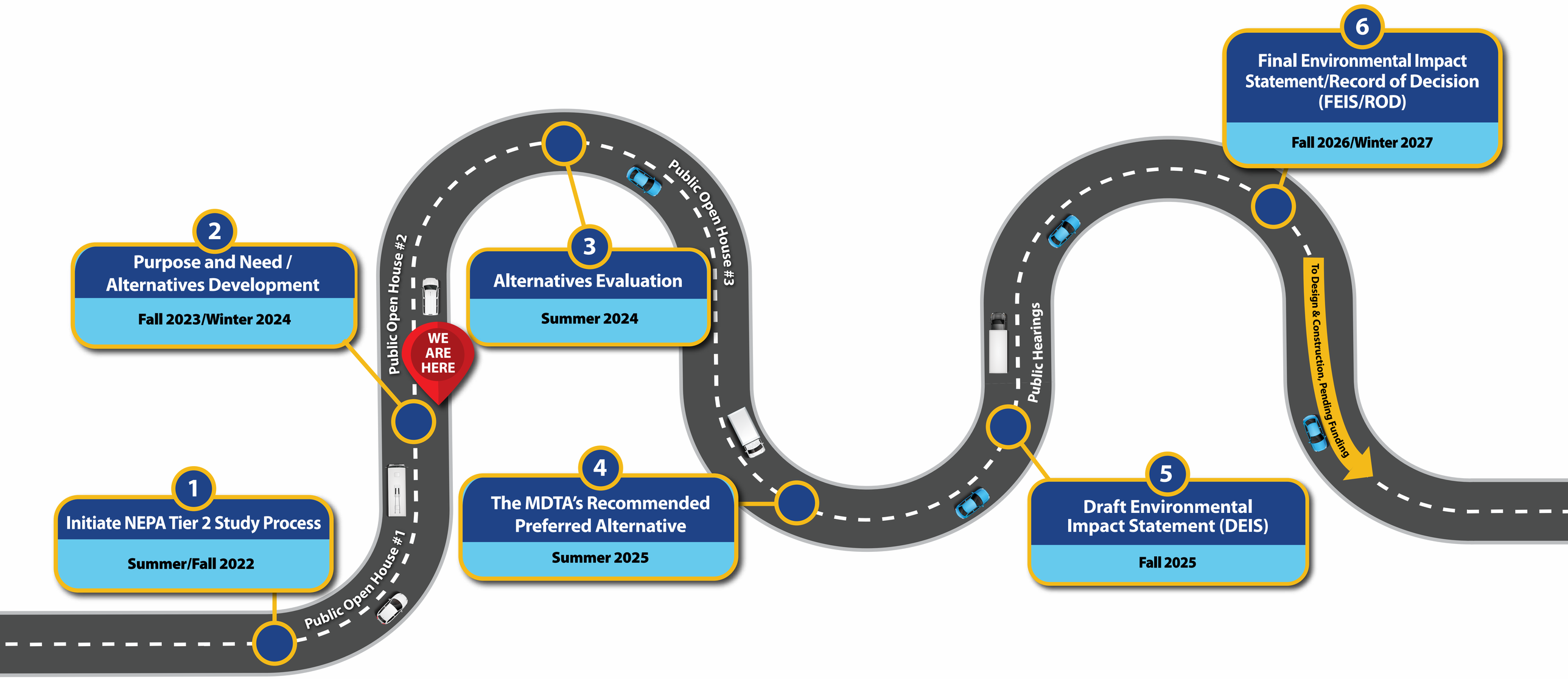
Learn about the alternatives development process
The MDTA is evaluating key components of potential Chesapeake Bay crossing alternatives.

Provide your comments
The MDTA welcomes you to review the information presented and provide your questions and comments.

Thank you for attending the September 2023 Tier 2 NEPA Open Houses!
You can scan the QR code at any time to access the online comment form.
Printed comment forms also are available at the comment table.

NEPA Process and Schedule

The National Environmental Policy Act (NEPA) requires any project receiving federal funding or approval to assess a project's potential impacts to the environment before taking action. In June 2022, the MDTA launched the Chesapeake Bay Crossing Study Tier 2 NEPA (Tier 2 Study).



*Schedule is preliminary and subject to change.

Environmental Studies

As required by the NEPA process, the Tier 2 Study will identify potential environmental impacts associated with specific transportation alternatives. Avoidance, minimization, and mitigation opportunities also will be developed. The following environmental technical studies will be conducted:

Environmental Justice and Equity

Potential effects to under-served communities, including minority, low-income, and Limited English Proficiency (LEP) populations.

Greenhouse Gas and Climate Change

Ensure transportation alternatives are consistent with greenhouse gas and climate change regulations.

Air Quality

Potential air quality impacts on local and regional populations; ensure transportation alternatives are consistent with air quality regulations per the Clean Air Act.

Noise

Potential future noise impacts from transportation alternatives; identify possible measures to mitigate noise impacts, when warranted.

Natural Resources

Potential effects on natural resources including the Bay, streams, wetlands, water quality, floodplains, threatened and endangered species, and wildlife habitat.

Socioeconomic and Land Use

Potential impacts to land use, communities and community facilities, including parks and recreation facilities.

Indirect and Cumulative Effects

Potential foreseeable future impacts to resources such as farmland, residential and business properties, and from other development and local plans.

Hazardous Materials

Potential impacts from known and potential hazardous materials, hazardous waste and contamination.

Section 106 of the National Historic Preservation Act requires federal agencies to take into consideration the effect their actions will have on historic properties. The MDTA and FHWA will identify historic properties, assess effects to these properties and resolve potential adverse effects. The assessment will include consultation with federal, state and local government agencies, federally recognized tribes and other consulting parties.

Chesapeake BAY CROSSING STUDY TIER 2 NEPA

MDTA Maryland Transportation Authority

U.S. Department of Transportation Federal Highway Administration

What We've Heard

September 2022 Open Houses

Some of the themes that were included in several comments include input about:

- existing and future traffic volumes,
- congestion on local roadways,
- the ease of access for emergency medical services and fire and rescue,
- transit and bicycle/pedestrian accommodations,
- pedestrian and bicycle support/alternatives,
- potential impacts of a build alternative on natural resources,
- potential impacts to communities and businesses,
- construction noise if a build alternative is selected, and
- where a new Bay crossing could be constructed.

To date we have received

1150

comments during the study.

June 2023 Virtual Transit & Bicycle/Pedestrian Listening Meeting

Some of the themes that were included in several comments include input about:

- support for a shared-use bicycle and pedestrian path for recreation,
- connectivity between shores and trails,
- the desire to boost tourism,
- support for transit services across the Bay, in particular Bus Rapid Transit,
- greenhouse Gas emissions,
- the potential of a Shared Use Path over US 50/301 connecting Kent Island Communities and around MD 8, and
- safety concerns for bicyclists and pedestrians.

Source: Remline

Equity Commitments

Equity Commitment for the Tier 2 Study

The MDTA will incorporate equity considerations and practices during the NEPA planning process from scoping through the Record of Decision for the Bay Crossing Study: Tier 2 NEPA (Tier 2 Study). Meaningful participation from individuals and groups historically excluded, overburdened and underserved is encouraged. The MDTA will ensure the needs and concerns of individuals and communities are incorporated into the Tier 2 Study to establish a fair and equitable transportation decision. For more information about the MDTA's equity commitment for the Study and to take an equity survey, scan this QR code.

What is Title VI?

- Title VI of the Civil Rights Act of 1964 provides that no person shall on the ground of race, color, national origin, sex, English proficiency, or disabilities be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity.

Should you need LEP assistance or if you believe the MDTA is not meeting the expectations of Title VI, you may direct questions, concerns, or file a complaint with:

Maryland Transportation Authority
Office of Equal Opportunity
2310 Broening Highway
Baltimore, MD 21224
410-537-5660 (Direct) | MD Relay: 7-1-1
MDTAeeo@MDTA.state.md.us

Why is Title VI Important?

- Title VI ensures that public services, including transportation, are provided in an equitable and nondiscriminatory manner.
- Title VI provides opportunities for public participation in decision-making without regard to race, color, or national origin, including populations with Limited English Proficiency (LEP).

Please Fill Out a Survey by Clicking or Scanning the Link Below.

The MDTA strives to involve all groups relevant to its Study in its public involvement activities. Please fill out a Demographic Information Survey to assist the MDTA in planning outreach to communities during the course of the Study.

Engaging the Community

The MDTA has attended several events throughout the Study Area since May 2023 to get the word out about the Tier 2 Study and to encourage the public to:

- participate in the Virtual Transit & Bicycle/Pedestrian Listening Meeting and these Public Open Houses,
- submit their comments,
- join the mailing list,
- fill out our surveys that help shape the Study, and
- spread the word to others about the Study.

Where We've Been:

- Kent Island Day
- Annapolis Pride Festival and Parade
- Annapolis Juneteenth Celebration
- Blood drives
- STEM events
- Farmers Markets
- National Night Out
- Maryland Seafood Festival
- Queen Anne's County Fair

Where We're Going:

- Anne Arundel County Fair

Hope to see you soon!

If your community/organization has an event you'd like us to attend, please email info@baycrossing.com with details.

Source: MDTA

Source: MDTA

Source: MDTA

Purpose & Need

The MDTA currently is developing the Purpose and Need for the Tier 2 Study and seeking your input.
The recommended Purpose and Need below may be further refined with public and agency input.
The Purpose and Need will be used to assess transportation alternatives.

Draft Purpose

The Tier 2 Study will evaluate reasonable alternatives for providing adequate capacity and access to improve travel reliability, mobility and safety across the Chesapeake Bay and along the US 50/301 corridor. The Tier 2 Study will evaluate existing and potentially expanded transportation infrastructure to support additional capacity, improve travel times, accommodate maintenance activities and improve navigational clearances. The Tier 2 Study will consider equity and environmental responsibility, and cost and financial viability.

Study Needs

Adequate Capacity and Reliable Travel Times

Mobility

Safety

Existing and Future Maintenance Needs

Navigational Clearance

Additional Considerations

Equity and Environmental Responsibility

Cost and Financial Viability

Source: MDTA

Chesapeake BAY CROSSING STUDY TIER 2 NEPA

MDTA Maryland Transportation Authority

U.S. Department of Transportation Federal Highway Administration

Study Needs

Adequate Capacity and Reliable Travel Times

Capacity of the Bay Bridge and its approaches on US 50/301 and the adjacent local roadway network is not sufficient to accommodate existing and future traffic volumes, resulting in traffic congestion on the Bay Bridge and adjacent roadway network.

In the eastbound direction:

- Based on results from the Tier 1 Study, queues (backups) of 2.5 miles or longer are common on weekdays, particularly when two-way traffic cannot be put into effect due to heavy westbound volumes or due to weather/wind concerns.
- On summer Fridays and Saturdays, queues 7.5 miles or longer have occurred.

In the westbound direction:

- On weekdays and Saturdays, queues of 2.5 miles or longer regularly occur, particularly when two-way traffic is in effect.
- Queues are worst on summer Sundays and holiday Mondays, with queues of more than 8.5 miles occurring regularly.

Mobility

Congestion on the Bay Bridge and its approaches limits the mobility of people and goods across the Chesapeake Bay and has spillover effects on local roadways and adjacent communities.

- When US 50/301 queues are long, some drivers divert to local roadways to bypass the queue. These diversions impact mobility for local residents, businesses and emergency responders, especially on the Broadneck Peninsula and Kent Island.

Safety

The bridge does not meet current standards for design or traffic operations because of existing conditions such as narrow lanes and lack of shoulders.

Chesapeake BAY CROSSING STUDY TIER 2 NEPA

MDTA Maryland Transportation Authority

U.S. Department of Transportation Federal Highway Administration

Study Needs

Existing and Future Maintenance Needs at the Existing Spans

Due to the age of the existing Bay Bridge, extensive costly ongoing maintenance causes additional congestion that will get worse in the future.

Navigational Clearance

The existing Bay Bridge is a key limitation on the height of ships that travel the Chesapeake Bay, including to the Port of Baltimore.

Additional Considerations

Equity and Environmental Responsibility

The MDTA will consider equity in both Study process and outcomes for all stakeholders, including traditionally underserved communities.

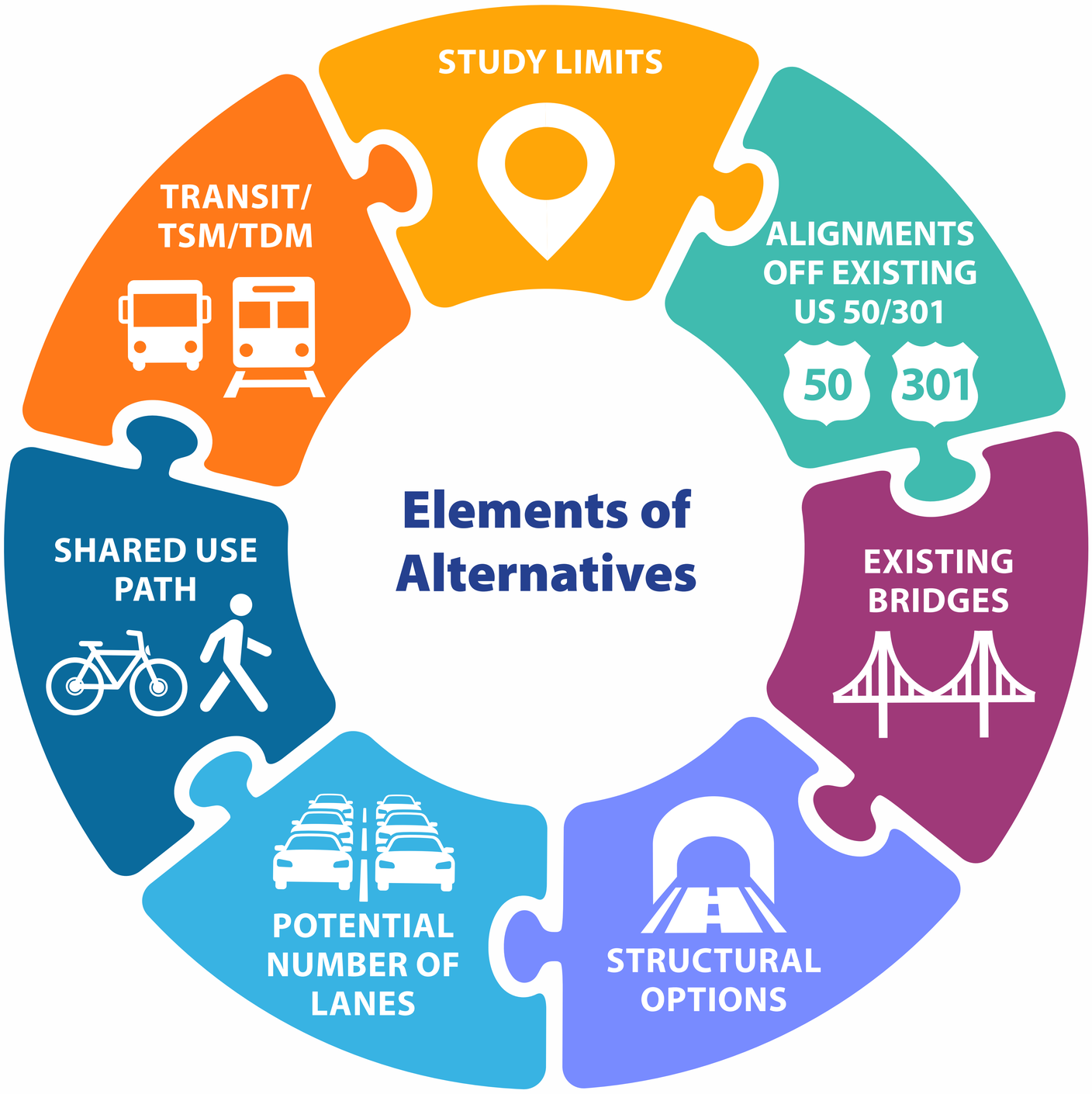
Project alternatives will be developed to avoid and minimize impacts to communities and sensitive environmental resources and provide appropriate mitigation for unavoidable impacts.

Cost and Financial Viability

Cost and financial viability will be considered in the Study, including but not limited to life-cycle cost analysis and toll revenues.

Alternatives Development Process

The MDTA is evaluating seven key elements that will inform the development of a range of reasonable alternatives.



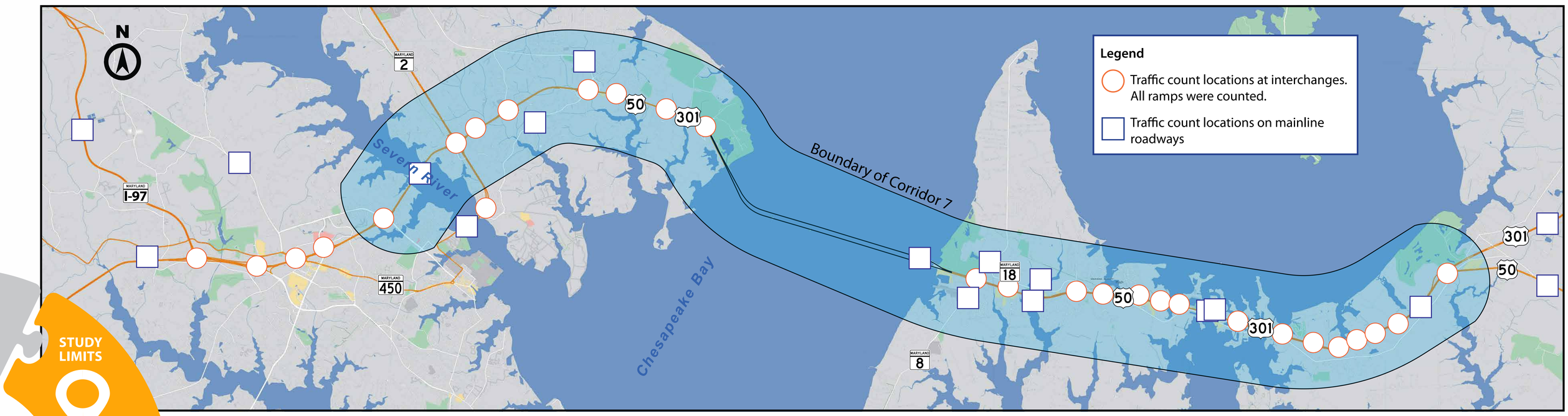
Study Limits

At the conclusion of the Tier 1 Study, Corridor 7, the corridor that extends from the Severn River Bridge to the US50/301 split, was approved by the FHWA in its April 2022 Record of Decision (ROD). Corridor 7 was found to:

- provide the most positive reduction of traffic and improve access and mobility at the Bay Bridge,
- potentially have lower overall environmental impacts due to the shorter Chesapeake Bay crossing length and ability to utilize existing on-land roadway infrastructure, and
- be more consistent with existing land use patterns and plans on the Eastern Shore, potentially reducing pressure for new residential development and corresponding impacts to farmland and natural resources.

A NEPA Study must have study limits, or endpoints, for the transportation improvement and environmental impacts analysis. Typically, in a study of an existing facility like US 50/301, the endpoints are related to the location of major interchanges, where significant changes in traffic volumes occur. To determine the appropriate limits for the Tier 2 Study, the MDTA analyzed the traffic volumes along Corridor 7 and at its interchanges.

This traffic analysis included the collection of traffic volume data on both Non-summer weekdays and summer weekends. The location of the traffic counts are shown on the map below. Traffic counts were collected beyond the limits of Corridor 7 to identify appropriate endpoints.



Western Shore (Westbound Daily Traffic)

LEGEND:
= Non-Summer Weekday
(##) = (Summer Sunday)

N

Severn River Bridge
60,560
(60,556)

MARYLAND 2	MARYLAND 648	BAY DALE DRIVE	MARYLAND 179	OCEANIC DRIVE
16,907 (9,925)	187 (94)	7,755 (4,912)	6,441 (4,229)	643 (1,655)
7,927 (10,245)	256 (297)	1,005 (795)	913 (1,014)	236 (897)
EXIT 27A/27B		EXIT 28	EXIT 29	EXIT 32
2,158 (1,443)		2,077 (1,239)	2,368 (2,286)	721 (186)
1,908 (1,519)		228 (185)	618 (1,303)	557 (691)

WEST 50 / SOUTH 301

Bay Bridge
34,951
(51,533)

MARYLAND 450

Westbound traffic across the Bay Bridge is lower than across the Severn River Bridge by approximately:
- 42% on a non-summer weekday
- 15% on a summer Sunday

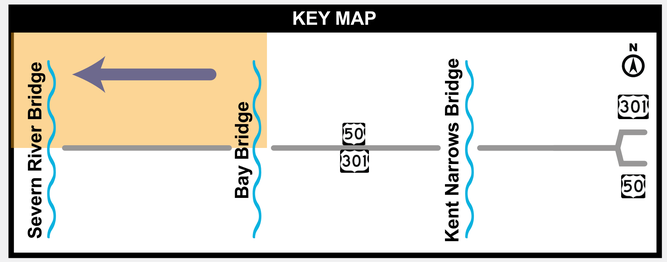
Approximately 42% to 65% of the traffic crossing the Severn River traveling westbound enters US 50/301 from the Broadneck Peninsula.

Total Traffic Entering US 50/301
39,257
(25,969)

Total Traffic Exiting US 50/301
13,648
(16,946)

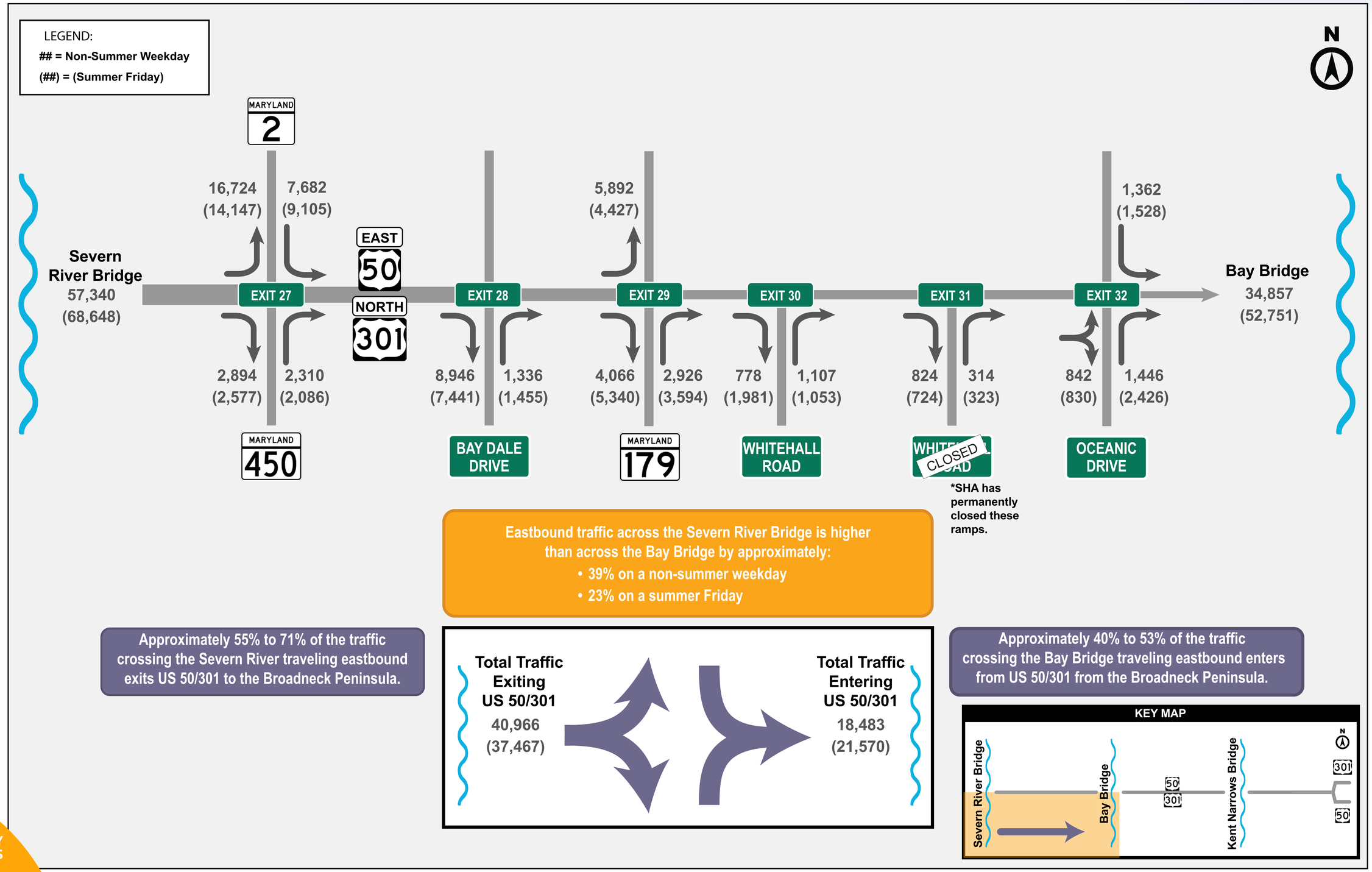
Approximately ⅓ of the traffic crossing the Bay Bridge traveling westbound exits from US 50/301 to the Broadneck Peninsula.

KEY MAP

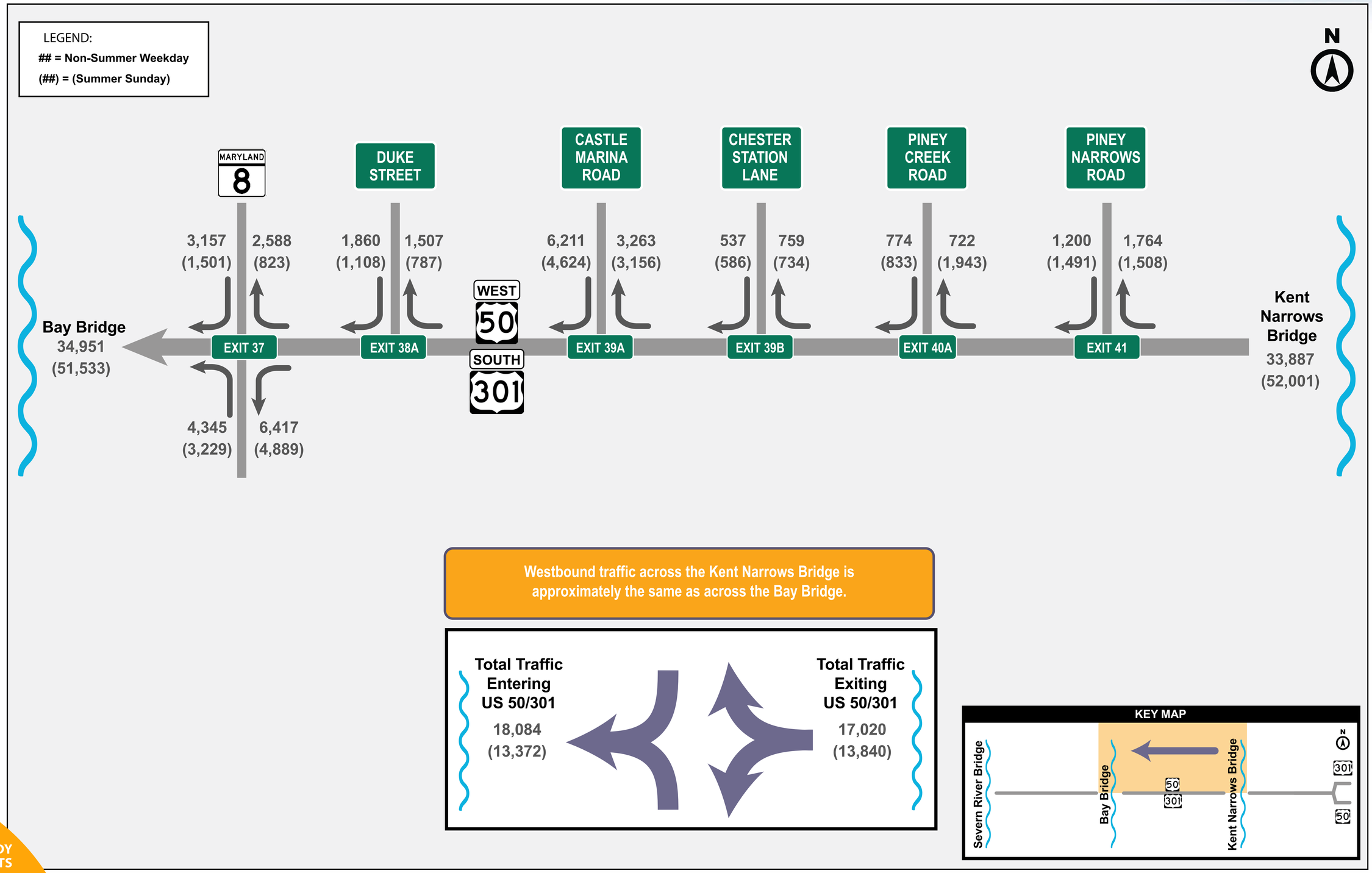


STUDY LIMITS

Western Shore (Eastbound Daily Traffic)

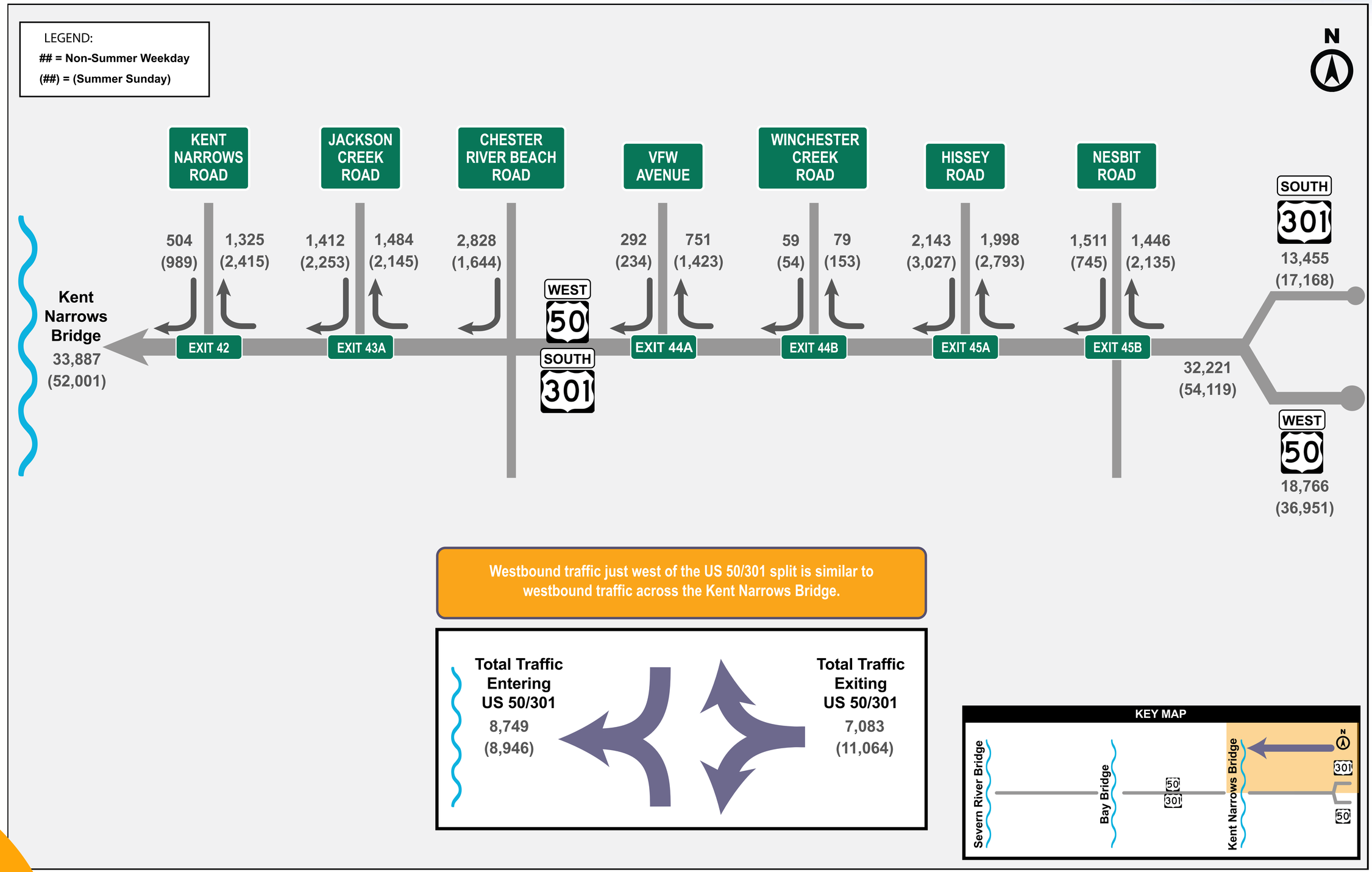


Eastern Shore (Westbound Daily Traffic #1)



STUDY LIMITS

Study Limits
Eastern Shore (Westbound Daily Traffic #2)



STUDY LIMITS

Eastern Shore (Eastbound Daily Traffic #1)

LEGEND:
= Non-Summer Weekday
(##) = (Summer Friday)

N

Bay Bridge
34,857
(52,751)

EXIT 37	EXIT 38A	EAST 50 NORTH 301	EXIT 39A	EXIT 39B	EXIT 40A	EXIT 40B	EXIT 41
2,769 (2,261)							
3,775 (4,152)							
3,803 (3,424)	3,609 (4,939)		2,422 (2,276)	5,744 (6,222)	1,583 (1,843)	478 (777)	991 (1,625)
3,916 (3,887)	4,614 (6,291)		2,604 (2,503)	3,918 (4,382)	2,210 (2,887)	667 (1,242)	405 (538)
MARYLAND 8	THOMPSON CREEK ROAD		COX NECK ROAD	MARYLAND 552	SOUTH PINEY ROAD	DUNDEE AVENUE	MARYLAND 18

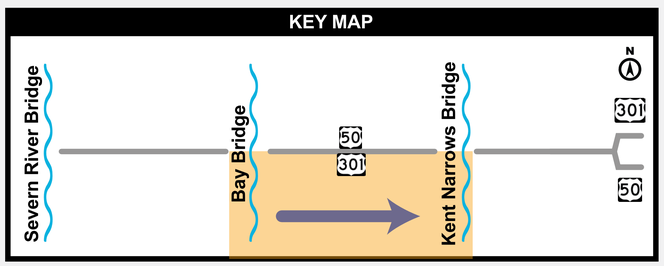
Kent Narrows Bridge
35,567
(55,266)

Eastbound traffic across the Bay Bridge is similar to eastbound traffic across the Kent Narrows Bridge.

Total Traffic Exiting US 50/301
21,399
(23,367)

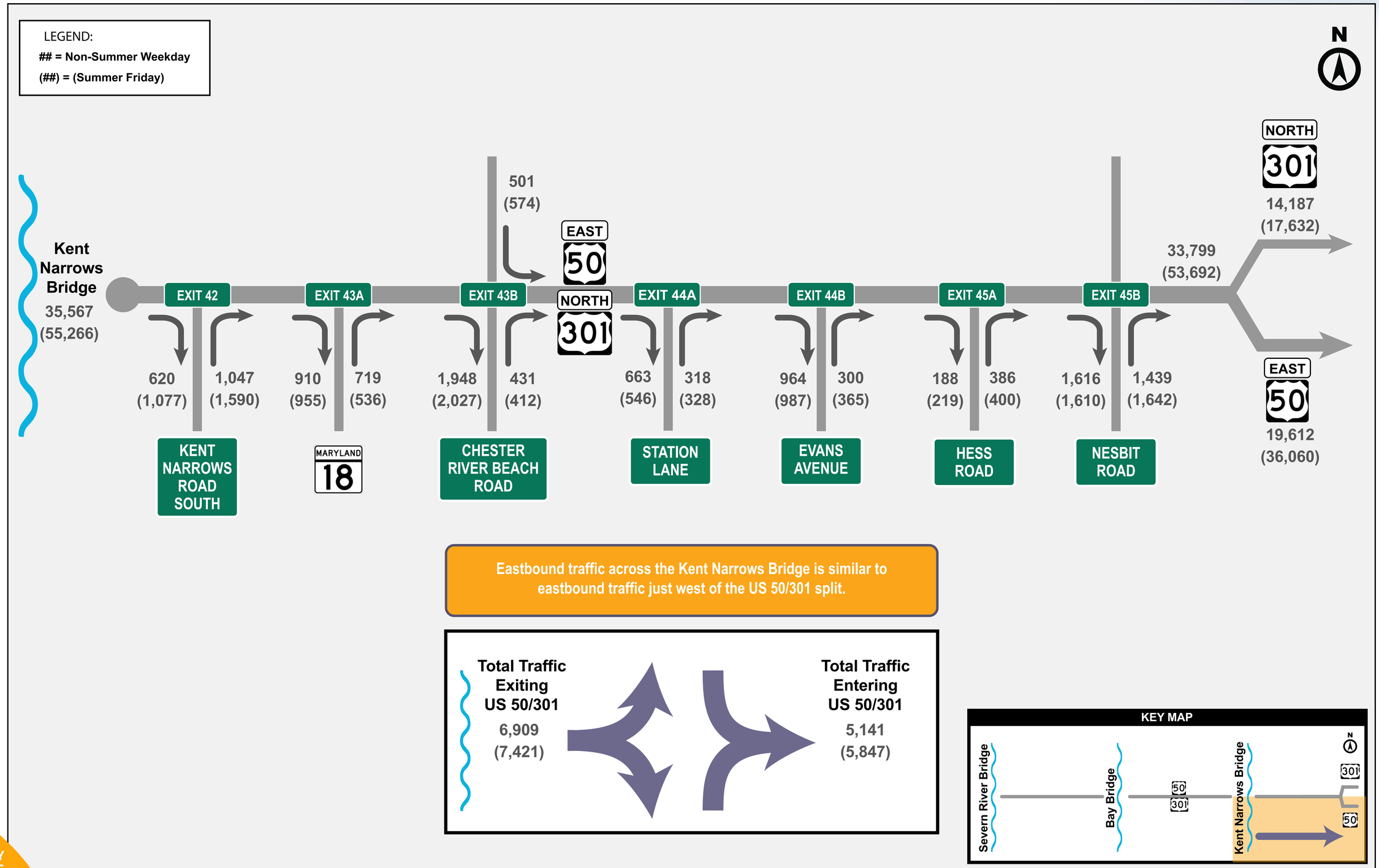
Total Traffic Entering US 50/301
22,109
(25,882)

KEY MAP



STUDY LIMITS

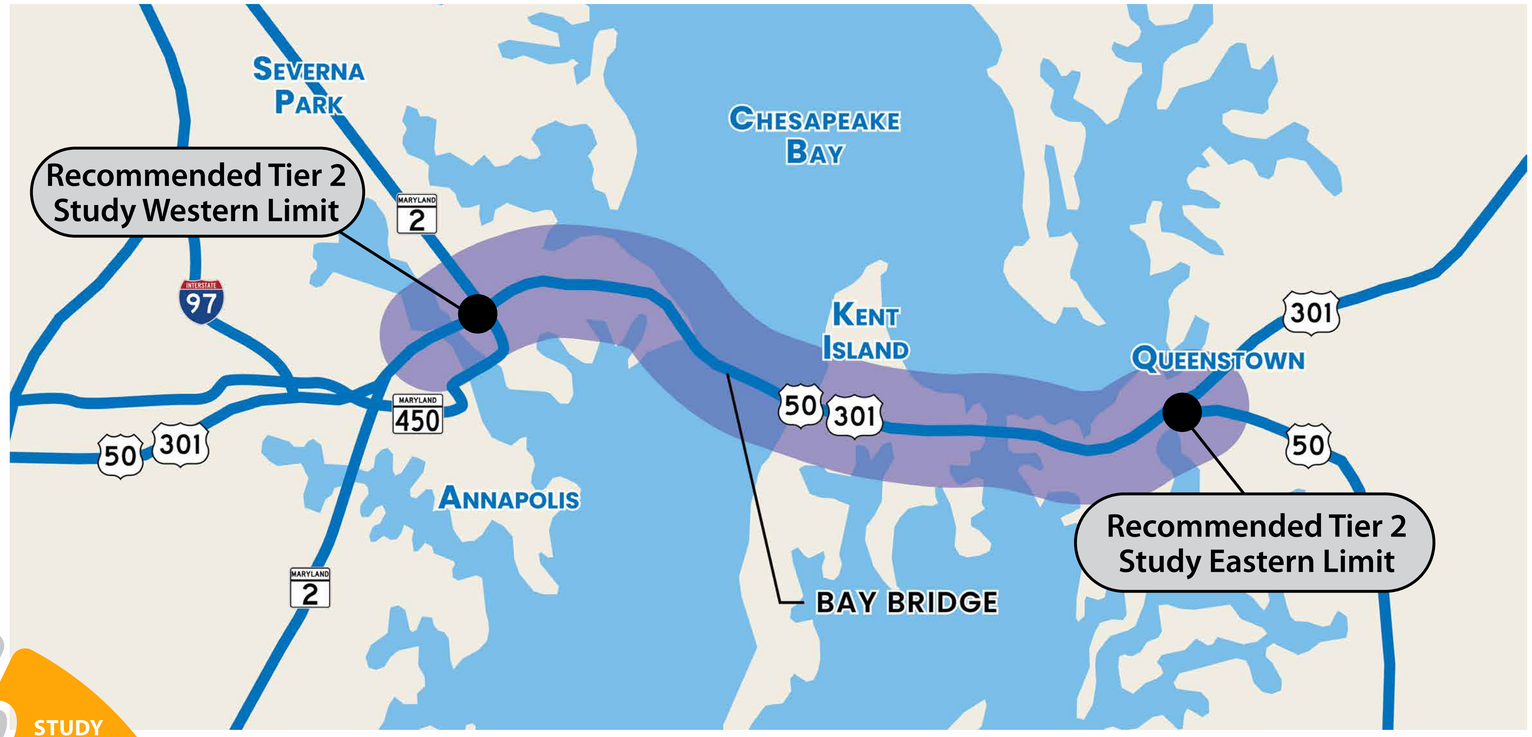
Eastern Shore (Eastbound Daily Traffic #2)



Study Limits - Moving Forward

The analysis of the traffic volumes on the preceding boards demonstrates:

- Western Shore:
  - Traffic volumes across the Bay Bridge are lower than volumes across the Severn River bridge on both Non-summer weekdays and summer weekends.
  - Approximately 33% to 53% of the traffic on the Bay Bridge enters or exits US 50/301 on the Broadneck Peninsula.
  - Approximately 42% to 71% of the traffic on the Severn River bridge enters or exits US 50/301 on the Broadneck Peninsula.
- Eastern Shore:
  - There are no major changes in traffic volumes between the Bay Bridge and US 50/301 split.
  - The US 50/301 split is a major highway decision point for traffic heading north or south on the Eastern Shore with nearly 60% of the traffic using US 50 and 40% of the traffic using US 301.



MOVING FORWARD

The MDTA's recommended western limit is the MD 2/MD 450 Interchange.

The MDTA's recommended eastern limit is the US 50/301 split.

The study limits are approximately 20 miles from MD 2/MD 450 to the US 50/301 split.

STUDY LIMITS

Alignments Off Existing US 50/301

- The MDTA has identified the environmental resources within Corridor 7 to determine whether roadway alignments off existing US 50/301 should be advanced. The identified resources include:
  - Historic properties
  - Community facilities
  - Parks/recreational facilities
  - Commercial areas
  - Neighborhood areas
  - Agricultural areas
  - Submerged aquatic vegetation
  - Wetlands
  - Oyster bars
  - Floodplains
  - Coastal barrier resource areas
- The roll map available for viewing at this Open House shows these substantial sensitive environmental resources throughout the corridor.
- Preliminary assessment shows potential for substantial unavoidable impacts to private right-of-way and environmental and community resources from alignments off existing US 50/30.

MOVING FORWARD

The MDTA recommends no further evaluations of alignments off the existing US 50/301 roadway.

Existing Bay Bridge - Ongoing Maintenance

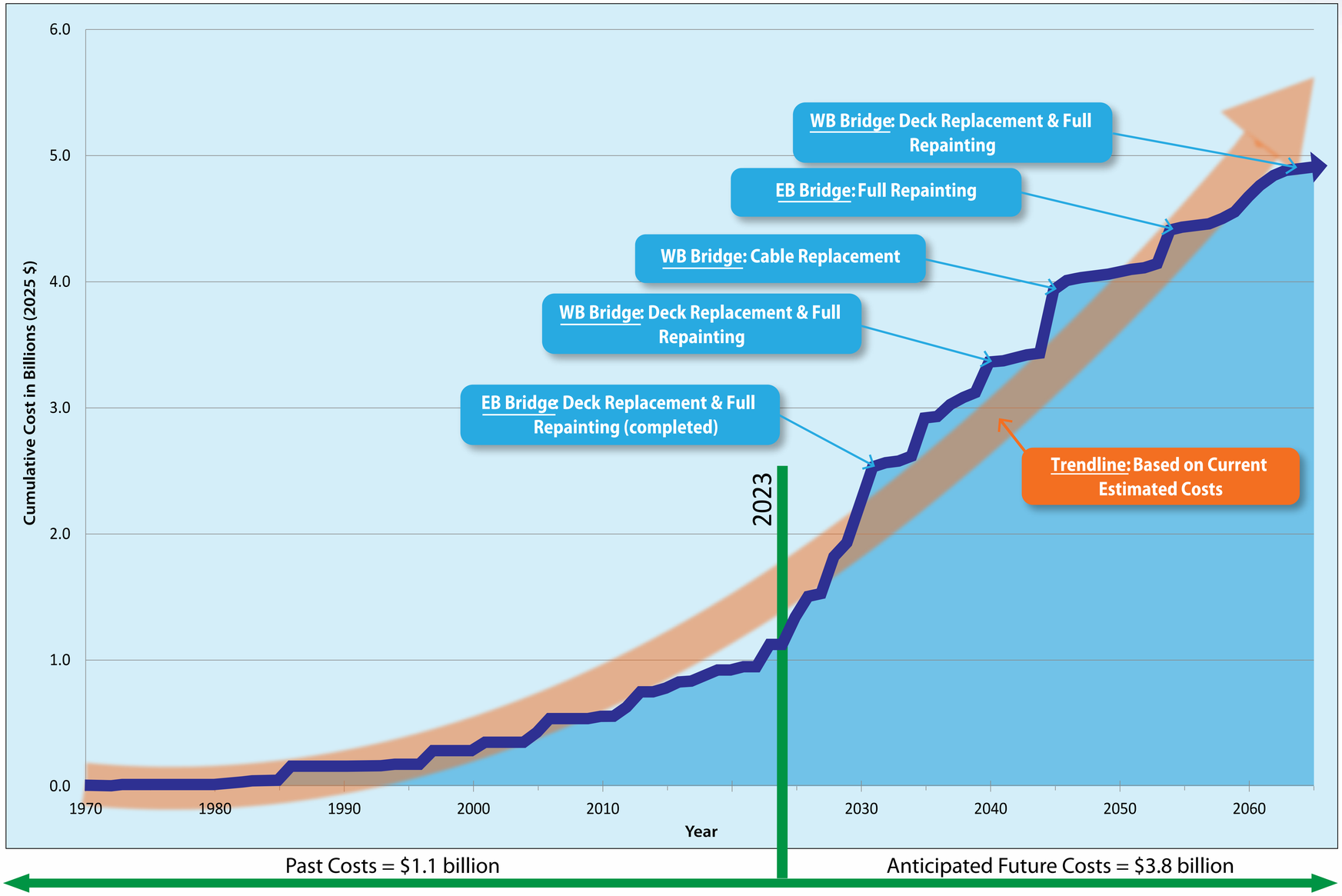
- Eastbound bridge is more than 70 years old. Westbound bridge is more than 50 years old.
  - The original design service life for the bridges was 50 years. Repairs and rehabilitation are essential to keep the bridge safe and open to traffic.
- Two types of repairs are performed on the bridge:
  - Repairs identified every two years during bridge inspections, such as spot painting or concrete cracks.
  - Major rehabilitation and reconstruction, such as full deck and beam replacements.
- Between 2023 and 2060, major reconstruction will be needed on the bridges for nearly half of that time (approximately 18 years).
- The traveling public will be impacted by required lane closures needed for this reconstruction. Though every effort is made to do lane closures at night and during off peak hours, the length of closures will extend into peak travel periods.
  - Certain required major rehabilitation, like beam replacements, will require full time (24/7) lane closures, which historically have had severe traffic impacts even in the winter months.

Source: MDTA

Cost of maintenance and rehabilitation
- $1.1 billion from 1970 through 2023
- $3.8 billion from 2024 through 2060 (estimated in 2025 dollars)

EXISTING BRIDGES

Existing Bay Bridge - Maintenance/Rehabilitation Costs



MOVING FORWARD

- Significant ongoing investments are necessary for small maintenance repairs and large rehabilitation projects.
- Over the next 40 years, these projects will continue to result in increasingly significant impacts to the traveling public due to the duration of the construction.

EXISTING BRIDGES

Structural Options Design Considerations

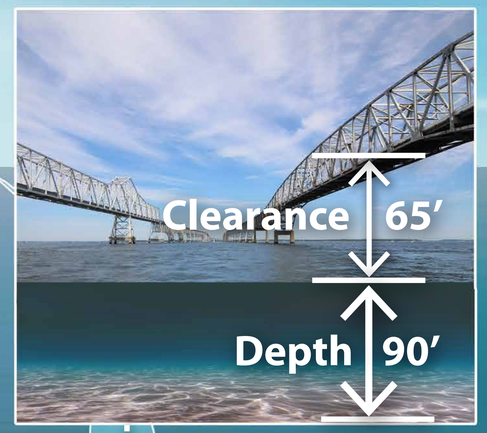
Chesapeake BAY CROSSING STUDY
TIER 2 NEPA

Maryland Transportation Authority

The type of structure for a potential new crossing is being evaluated as part of the Tier 2 Study.

- MDTA is evaluating three potential structure types: **bridge, tunnel,** and **bridge-tunnel.**
- There are many considerations including the existing structures and navigable channel conditions.

Secondary Channel Existing Clearance



to Annapolis/Washington D.C.

to Kent Island/ Ocean City

Main Channel 1500′ wide

Navigable for large ships 800′

Secondary Channel 725′ wide

STRUCTURAL OPTIONS

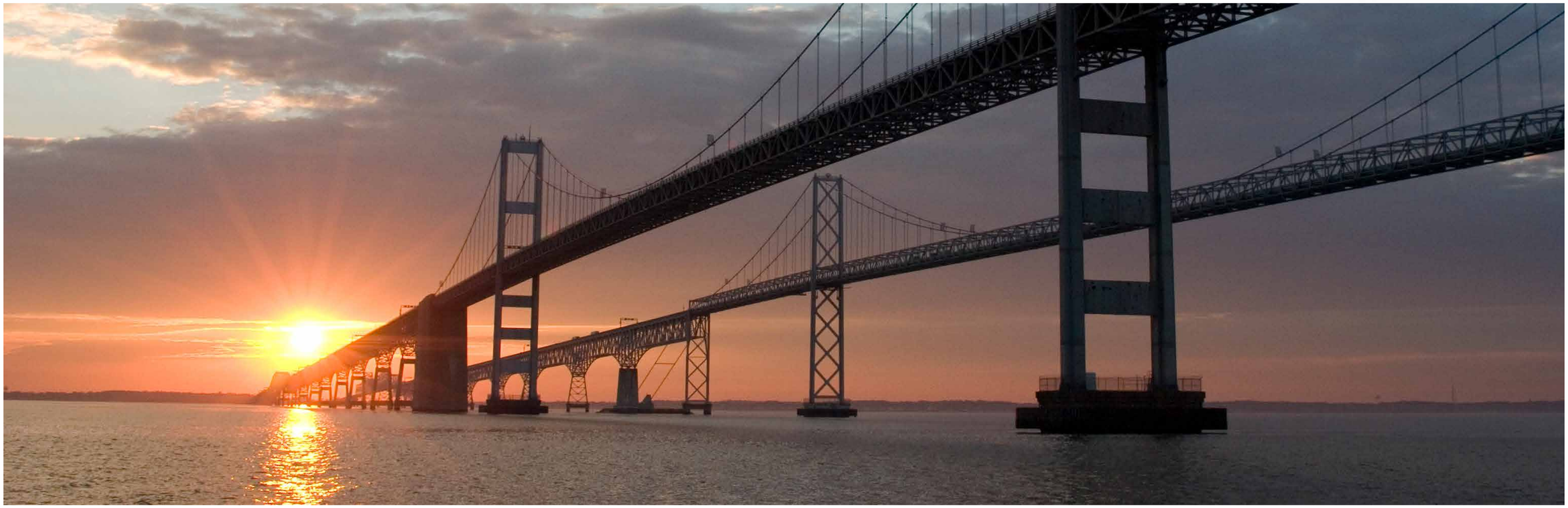
Chesapeake BAY CROSSING STUDY TIER 2 NEPA

MDTA Maryland Transportation Authority

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

Structure Type: Bridge

A new bridge crossing could connect the Western Shore and the Eastern Shore along a similar alignment to the existing Bay Bridge.



Source: MDTA

Benefits:

- Impacts to Bay habitat and environment limited to new bridge pier locations.
- Limited impact to shipping during construction.
- Opportunity for inclusion of pedestrian and bicycle shared use path.
- Ability to include shoulders along travel lanes for incident management and/or potential transit use.
- No limitation on materials transported across a bridge (e.g. trucks with flammable material).
- Lower cost compared to tunnel and bridge-tunnel.

Disadvantages:

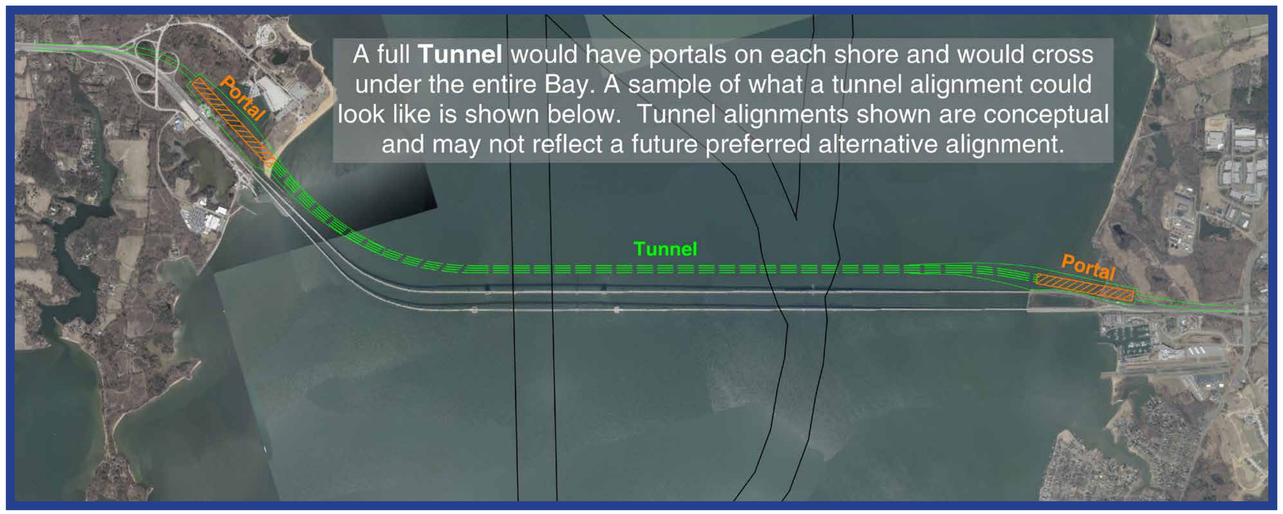
- Vertical restriction for channel.
- Potential weather restrictions.
- Potential interference with Bay Bridge Airport.

All the disadvantages listed are disadvantages for the existing bridges as well.

STRUCTURAL OPTIONS

Structure Type: Tunnel

A tunnel crossing could connect the Western Shore and the Eastern Shore as a full structure crossing under the entire Bay.

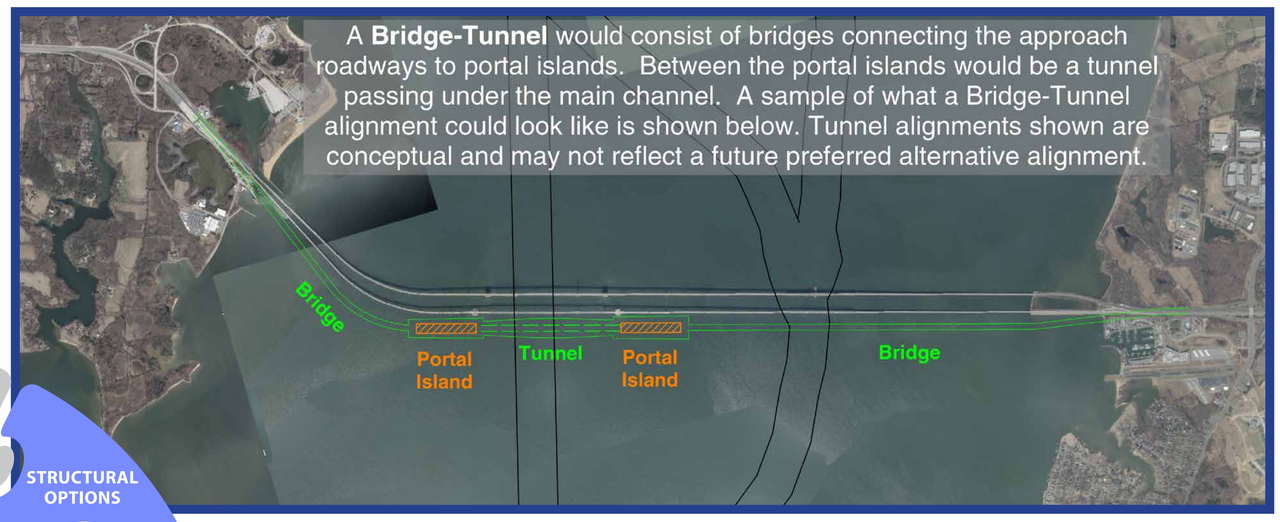


Fort McHenry Tunnel

Source: MDTA

Structure Type: Bridge-Tunnel

A tunnel crossing could connect the Western Shore and the Eastern Shore with a tunnel under the shipping channel(s) and bridges for the remainder of the crossing.



STRUCTURAL OPTIONS

Tunnel alignments shown are conceptual and may not reflect a future preferred alternative alignment.

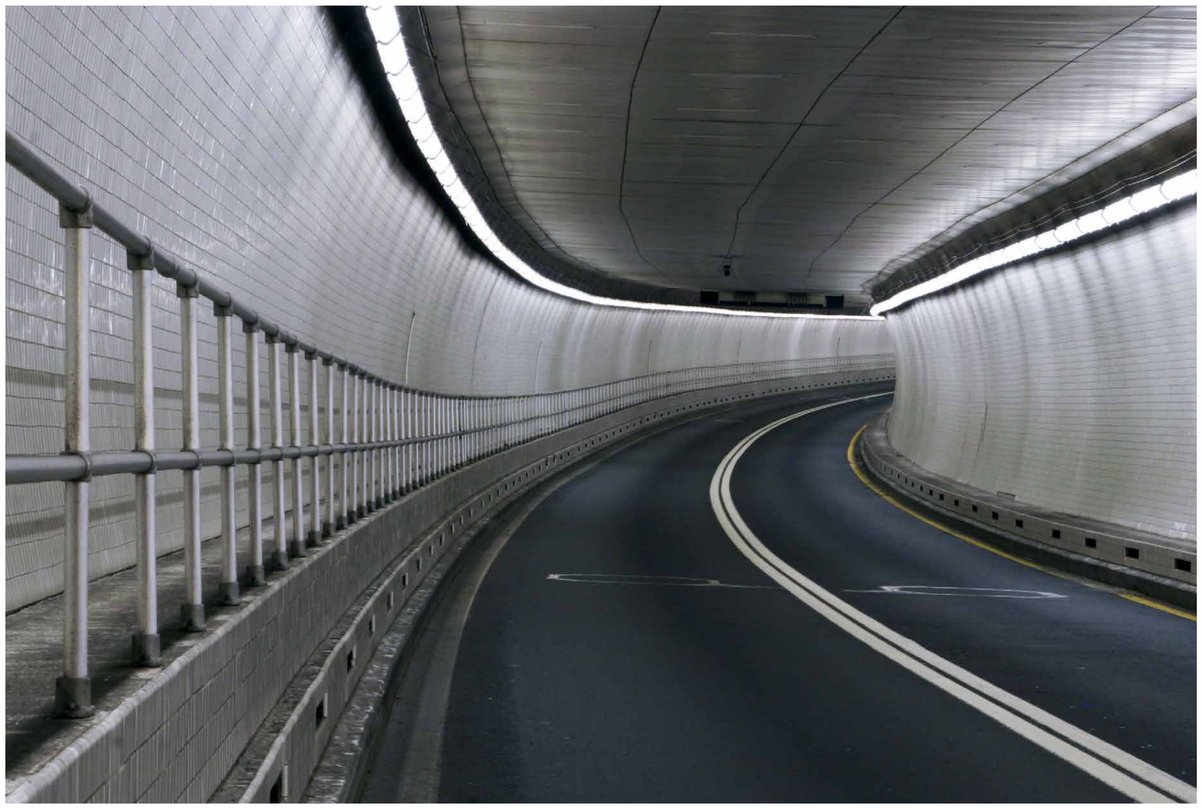
Hampton Roads Bridge Tunnel

Source: VDOT

Structure Type: Tunnel and Bridge-Tunnel

Benefits:

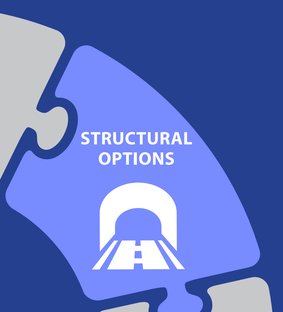
- Fewer weather restrictions than a bridge.
- Less potential interference with Bay Bridge Airport.
- No vertical restriction to the channel.



Source: MDTA

Disadvantages:

- Impacts to Bay habitat and environment.
  - Bridge-tunnel impacts would occur specifically at the portal islands which would be in the middle of the Bay.
- Higher construction costs.
  - Bridge-tunnel 2 to 3 times more expensive than a bridge.
  - Tunnel 3 to 4 times more expensive than a bridge.
  - Higher long-term costs for mechanical, electrical, ventilation and lighting systems maintenance.
- Steeper roadway grades in tunnels, causing slower traffic and reduced capacity.
- Impacts to shipping during construction.
- Due to the length of the crossing and additional safety elements, such as safety and security in a tunnel, the MDTA will only consider a shared use path on a bridge.
- No shoulders for incident management and/or potential transit use.
- Limitations on materials transported through tunnels (e.g. no trucks with flammable materials).



Recent projects where a tunnel has been built instead of a bridge typically have overarching needs such as:

- **Security and Defense:** Tunnels can be advantageous in terms of security and defense considerations that may be desirable for military or strategic purposes.
- **Geographical Constraints:** Tunnels are often preferred when there are significant geographical obstacles such as mountains, hills, or bodies of water that would make it impractical or expensive to build a bridge.

Tunnel Construction Methods

There are two types of tunnel and bridge-tunnel construction methods.

Immersed Tube Tunnel (ITT)

- Pre-cast tunnel sections are placed in dredged section of the Bay, closer to surface than with a bored tunnel.

Benefits:

- ⊕ Smaller portal islands than a bored tunnel.
- ⊕ Grade required is not as steep as a bored tunnel.

Disadvantages:

- ⊖ The bottom of the Bay would be disturbed in order to dredge and place the tunnel.
- ⊖ Construction may impact shipping movements in the Bay.

Bored Tunnel

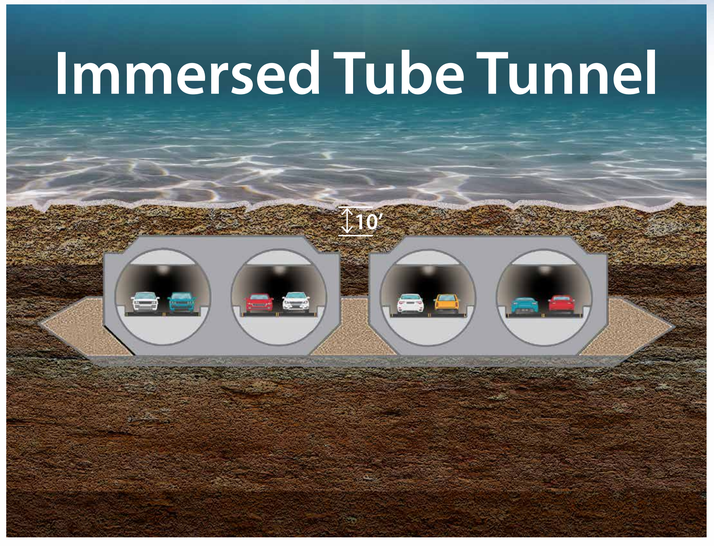
- Tunnel bored by Tunnel Boring Machine.
- Requires deeper tunnel compared to ITT.

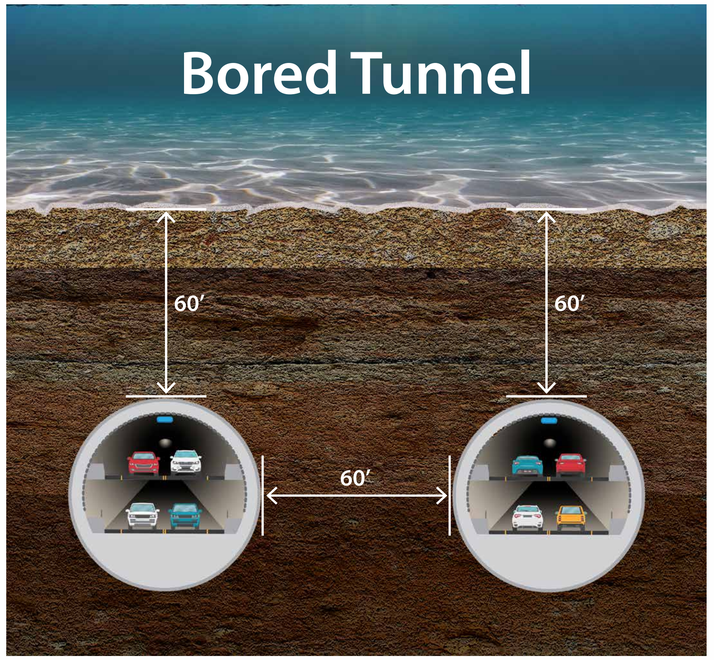
Benefits:

- ⊕ Does not require the bottom of the Bay to be disturbed for construction.
- ⊕ Construction would not impact shipping movements in the Bay.

Disadvantages:

- ⊖ Portal islands needed are much larger than ITT.
- ⊖ Grade is steeper than an ITT to achieve the required depth below the bottom of the Bay.





Conceptual tunnel lanes configuration shown. Actual may differ.

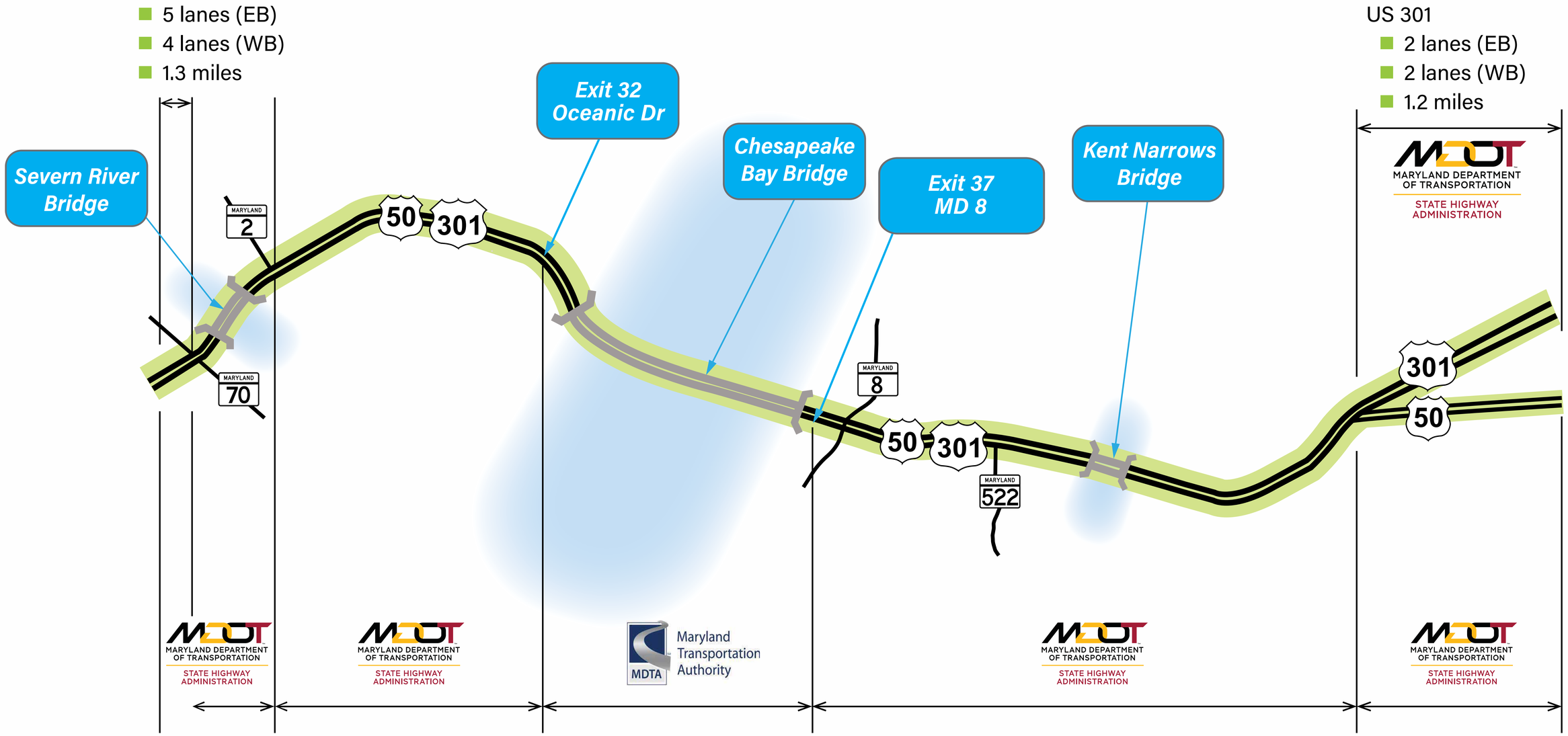
MOVING FORWARD

The MDTA's recommendation is to continue to evaluate all structure types. Preliminary analysis indicates that a Tunnel or Bridge-Tunnel likely would have many disadvantages and substantially higher cost than a bridge crossing.

STRUCTURAL OPTIONS

Existing Number of Lanes

- The existing lane configurations along US 50/301 vary as shown below.
- The MDTA and SHA work in collaboration to study transportation mobility in the corridor between the Severn River Bridge and the US 50/301 split.



POTENTIAL NUMBER OF LANES

*During peak periods, contraflow operations adjust the eastbound and westbound traffic flow across the bridge.

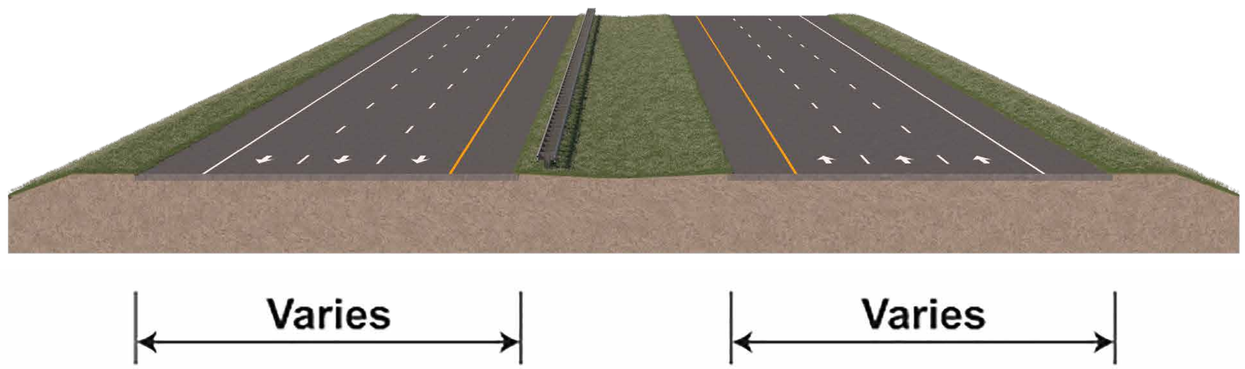
Potential Number of Lanes

The MDTA is evaluating the potential number of lanes for providing additional capacity across the Bay, while also considering sensitive environmental resources in the corridor.

- The existing bridge has less capacity than the approach roadways.
- In the existing conditions, local roads often carry volume from US 50/301 during congested periods.
- The number of lanes could vary between a future Bay crossing and the approach roadways.
- The number of lanes will be informed by future traffic and capacity analysis.

APPROACH ROADWAYS

6 LANES

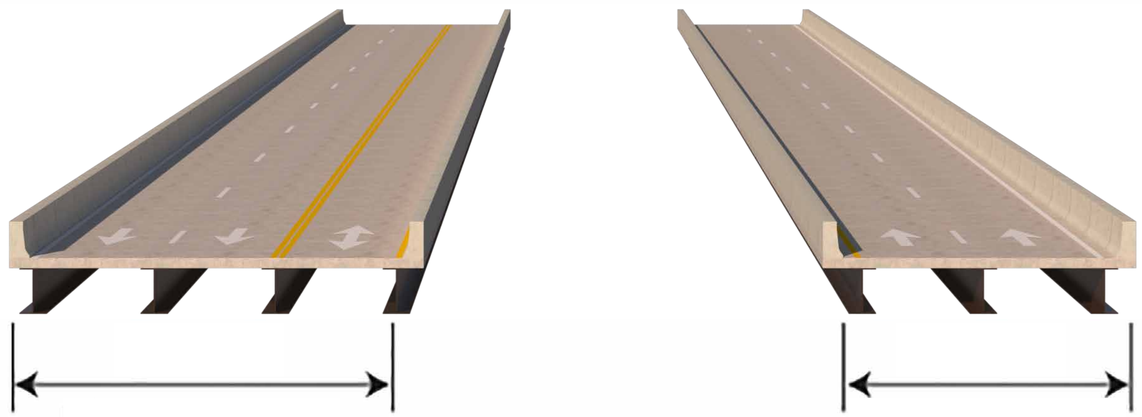


EXISTING LANES

BAY BRIDGE

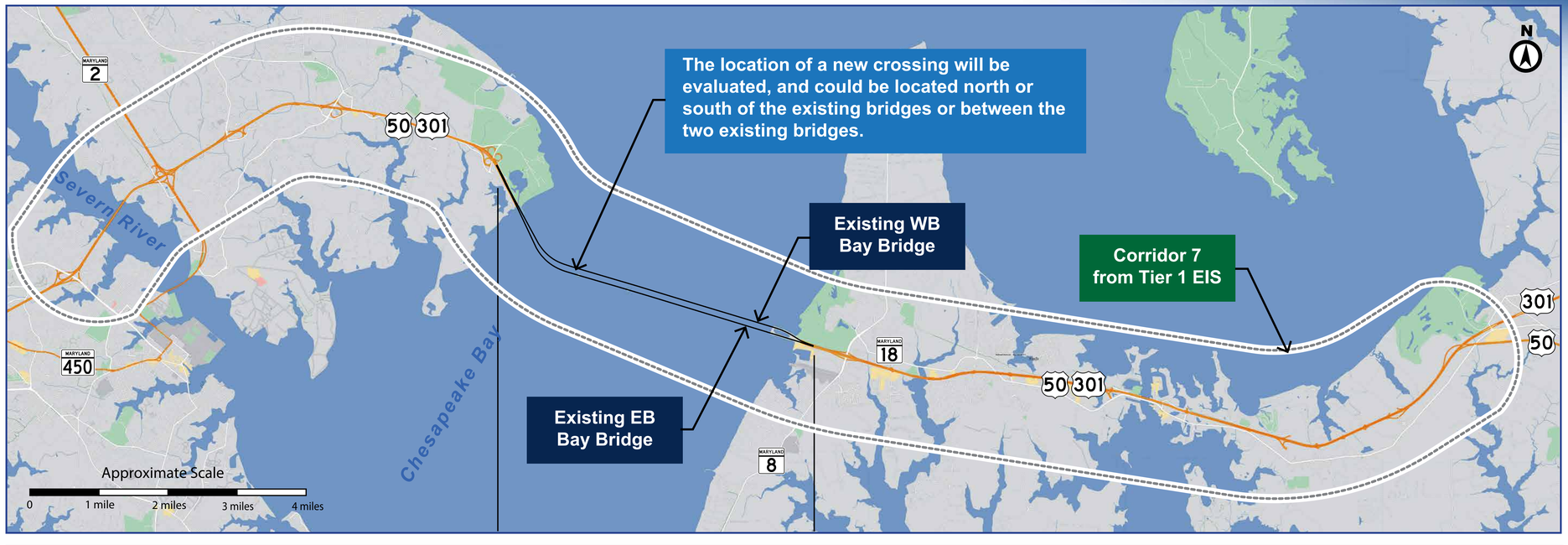
5 LANES

(minimal shoulders)



POTENTIAL NUMBER OF LANES

Potential Number of Lanes



The following table shows possible combinations of number of lanes on the Western Shore, on a future crossing, and on the Eastern Shore. This list does not include all possible combinations, but is rather an example to demonstrate how the number of lanes could vary.*

	Western Shore	Bay Crossing	Eastern Shore
Existing	6 Lanes	5 Lanes**	6 Lanes
Sample Lane Combinations	6 Lanes	6 Lanes	6 Lanes
	6 Lanes	8 Lanes	6 Lanes
	8 Lanes	8 Lanes	8 Lanes
	8 Lanes	10 Lanes	8 Lanes
	10 Lanes	10 Lanes	10 Lanes

*Approach roads include only US 50/301. Service roads and local roads are not included
**The 5 lanes across the existing bridges include a contraflow lane that allows for 3 lanes in the peak direction

MOVING FORWARD

The MDTA will continue studying the potential lane configurations. The MDTA recommends studying no more than 10 through lanes crossing the Bay or on approach roads.

POTENTIAL NUMBER OF LANES

Shared Use Paths on Bridges

A shared use path accommodates pedestrians and bicyclists and is being evaluated as part of the study. Major bridges both in Maryland and nationwide were reviewed to determine if shared use paths are included. The summary is shown in the table below.

Bridge	State	Total Length (mi)	Shared Use Path	Shared Use Path Width (ft)
Tower	CA	0.14	yes	10
Carquinez		0.66	yes	12
Dumbarton		1.62	yes	8
Golden Gate		1.7	yes	10
Oakland Bay		3.9	yes	15.5
San Rafael		4.04	yes	10
Delaware Memorial	DE	2.04	no	-
Pensacola Bay Bridge	FL	3.7	yes	10
Sunshine Skyway		4.14	no	-
Francis Scott Key	MD	0.7	no	-
Woodrow Wilson		1.15	yes	14
Hatem Memorial		1.4	no*	lane = 13
Nice/Middleton		1.9	no*	lane = 12
George Washington	NJ	0.98	yes	8
Walt Whitman		2.21	no	-
Commodore Barry		2.63	no	-
Bayonne	NY	0.35	yes	12
Goethals		0.38	yes	10
Brooklyn Bridge Bike		1.13	yes	8
Brooklyn Bridge Ped		1.13	yes	16
Manhattan Bridge Bike		1.16	yes	6.5 - 9
Manhattan Bridge Ped		1.16	yes	Unknown
Williamsburg		1.26	yes	11
Verrazzano-Narrows		1.5	no	-
RFK Memorial		2.48	yes	5
Mario Cuomo (Tappan Zee)		3.03	yes	12
Tacoma Narrows	WA	1.05	yes	10

* Cyclists allowed via lane-sharing

Mario Cuomo (Tappan Zee) Bridge (NY)

Source: Adobe Stock Photos

Oakland Bay (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

Existing and Proposed Trail Network

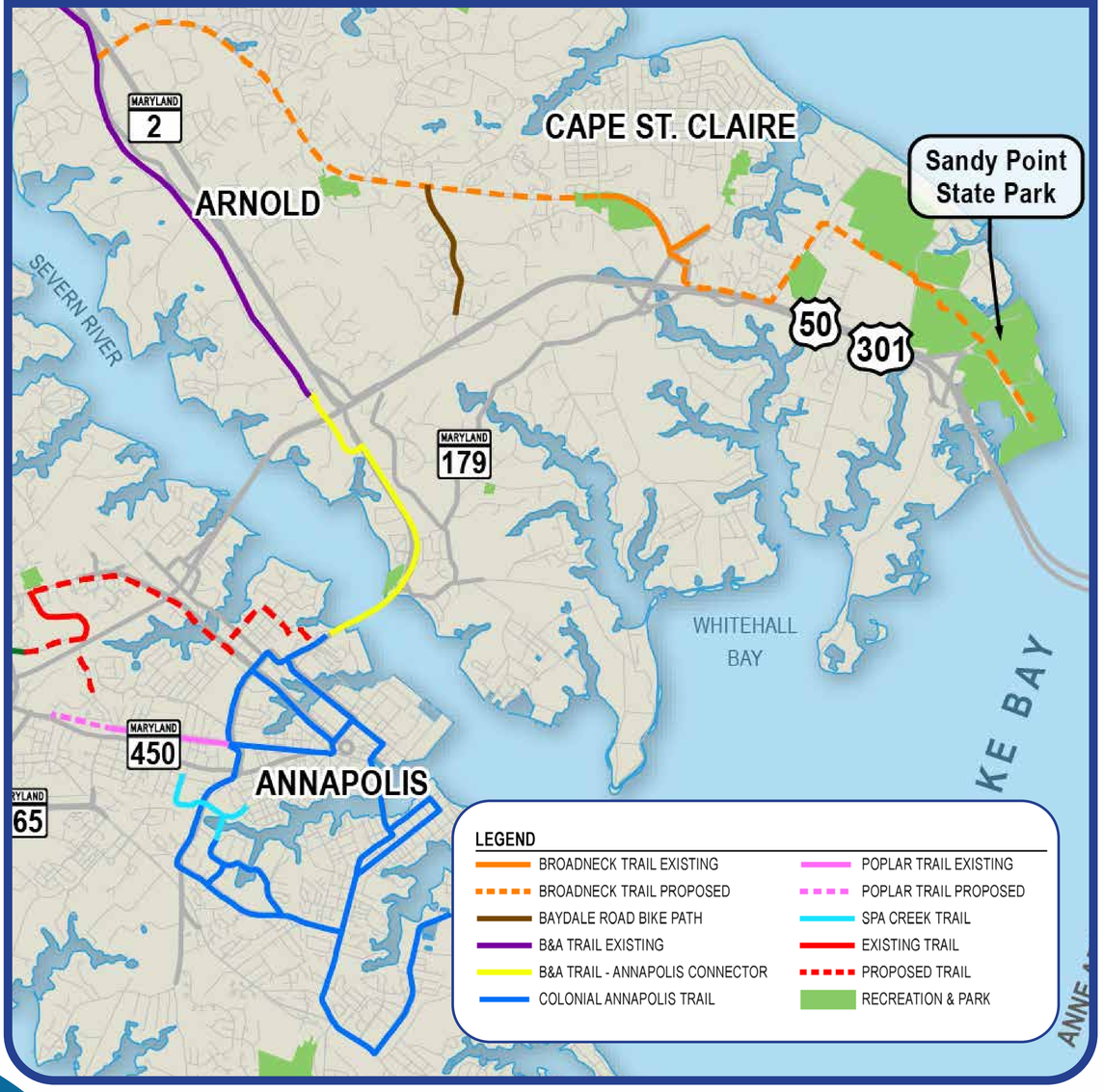
Chesapeake BAY CROSSING STUDY TIER 2 NEPA

Maryland Transportation Authority

A potential shared use path across the Bay would increase connectivity between the existing and planned bicycle and pedestrian facilities in Anne Arundel and Queen Anne's counties.

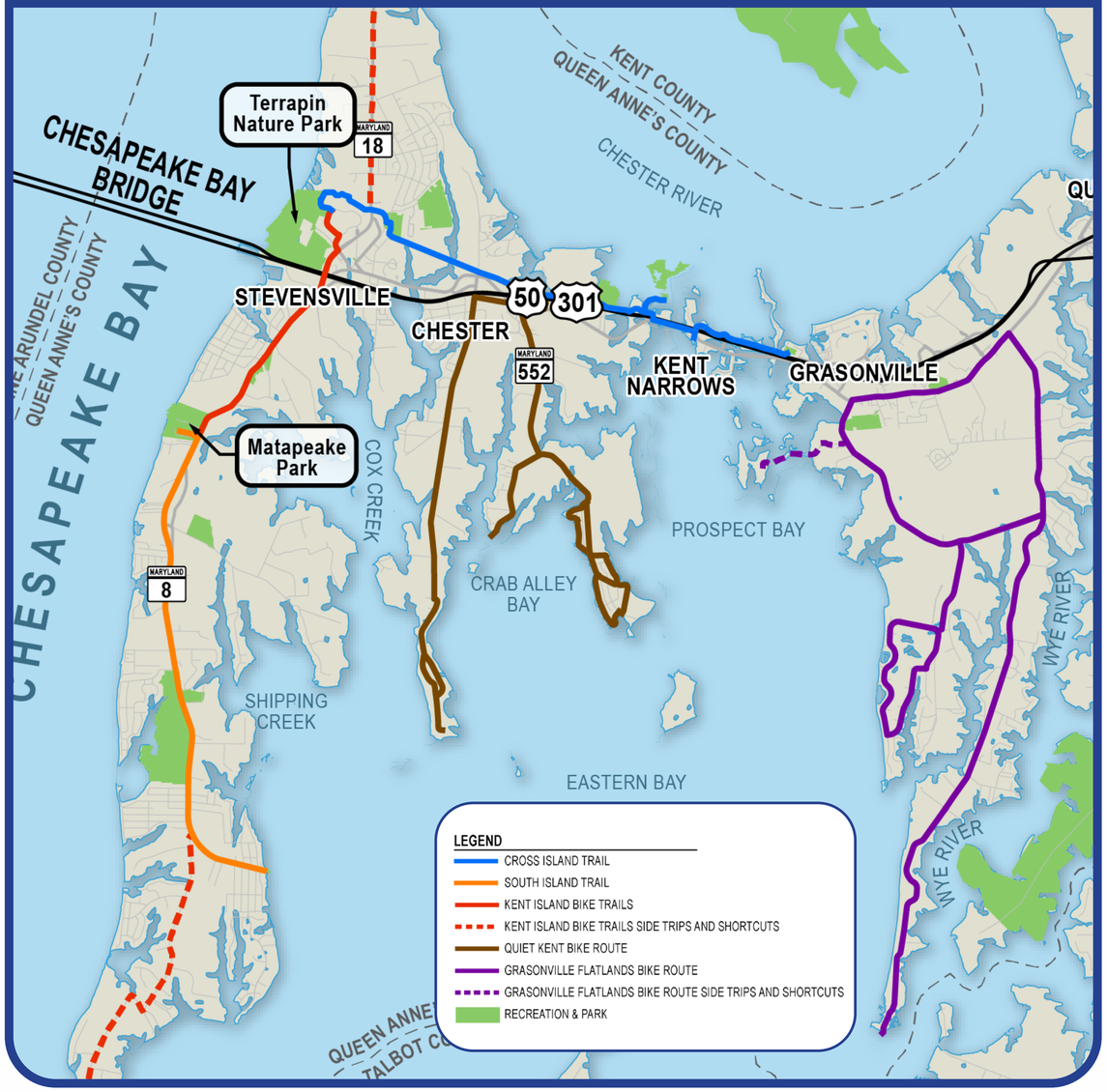
Anne Arundel County

Note: Portions of the proposed trails are currently under construction.



Queen Anne's County

Note: Portions of the proposed trails are currently under construction.



SHARED USE PATH

Benefits of a Shared Use Path Across the Bay

Benefits of a shared use path include:

- increasing pedestrian and bicycle connectivity with existing and planned pedestrian and bicycle facilities,
- connecting communities on Western and Eastern Shores,
- potential health benefits for shared use path users,
- potential to increase tourism, and
- potential to increase local retail spending near pedestrian and bicycle facility.

At the June 27, 2023, Virtual Transit & Bicycle/Pedestrian Listening meeting, many comments were made about the benefits and/or drawbacks of having a shared use path.

Due to the length of the crossing and additional safety elements, such as safety and security in a tunnel, the MDTA will only consider a shared use path on a bridge.

Source: Shutterstock

Safety and Design Elements Under Consideration for Shared Use Path

There are many safety, design, and user comfort elements to consider for the safe inclusion and design of a shared use path across a future Bay Bridge, given its height above the water and steep grade:

Height of Bridge

- Level of comfort for users
- Concern with fall prevention and need for mitigation

Wind

- High winds and inclement weather will limit access and usage
- Need for additional monitoring and notifications for shared use path information and updates

Length of Bridge (4+ miles)

- Long walking and riding distance across the bridge with no exit
- Users may overestimate their ability to travel the long distance

Deflection/Vibration

- Bridge vibration effect on users

Grade

- Level of comfort for users due to continuous grade of bridge

Shared Use Path Width

- Provide adequate width for passing
- Accommodate two direction movement
- Consider providing overlook or rest areas

Safety Barrier

- Need for adequate separation from vehicular traffic
- Adequate railing heights/barriers for safety and fall prevention

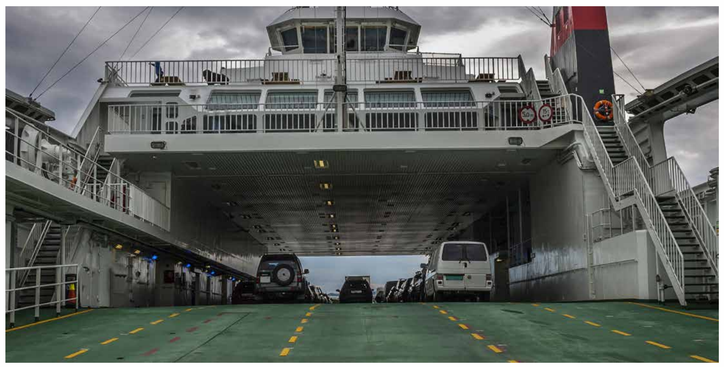
MOVING FORWARD

Based on the potential advantages and strong interest from the public, the MDTA recommends evaluating the safe inclusion of a shared use path with bridge alternatives.

Transit/TSM/TDM

The Tier 1 Study concluded that ferry service, bus rapid transit (BRT), rail transit, and Transportation Systems Management (TSM)/Transportation Demand Management (TDM) would not be carried forward for further evaluation as stand-alone alternatives. However, these transit and TSM/TDM elements are being evaluated in the Tier 2 Study as part of the build alternatives. The MDTA received many comments about transit/TSM/TDM at the Listening Meeting held on June 27, 2023, and is considering these comments as the analysis moves forward.

Options Under Consideration



Source: Shutterstock

FERRY

- Passenger Ferry
- Vehicular Ferry

Source: Shutterstock

HIGH-CAPACITY TRANSIT

- Passenger Rail
- Commuter Rail
- Heavy Rail
- Light Rail
- BRT

Source: Shutterstock

BUS

- Expanded local bus service
- Expanded commuter bus service
- Intercity bus service
- 24-hour dedicated transit lane
- Congested period only dedicated transit lane
- Bus-on-shoulder operation
- Queue jump lane

Source: SHA

Source: MDTA

TSM/TDM

- Congestion pricing
- Ramp metering
- Access management
- Express-local lanes
- Managed lanes
- Part-time shoulder use lanes

TRANSIT/ TSM/TDM

Existing Transit Services in the Corridor

Four agencies currently operate transit service across and adjacent to the Bay Bridge: the MDOT Maryland Transit Administration (MTA), Annapolis Transit, Anne Arundel County Transit, and Queen Anne's County Ride.

Source: wikimedia

MTA Commuter Bus

- Route 240/250 - Kent Island & Davidsonville - Washington D.C.
- Route 210 - Kent Island - Annapolis/Baltimore

Source: MDTA

Queen Anne's County Ride

- 4 Deviated Fixed Routes
  - Paratransit service provided by deviating up to ¾ mile off fixed route
- County-wide Demand Response Service

Source: MDTA

Anne Arundel County Transit

- 12 Fixed Routes
- 2 On-Demand Zones

Source: MDTA

Annapolis Transit

- 8 Fixed Routes
- ADA Paratransit Service

TRANSIT/ TSM/TDM

There are no existing ferries or passenger rail routes across the Bay, or supporting infrastructure on either shore.

Additional details can be found on the project website: baycrossingstudy.com/june2023listeningmeeting.

Ferry

- Ferry service (both vehicular and passenger) could provide an alternate means for crossing the Bay.
- Ferry service would incur operational costs and require new terminals and access roads on the western shore and eastern shore.
- The additional infrastructure would likely result in additional environmental impacts.

Anne Arundel County and Visit Annapolis are conducting a Chesapeake Bay Passenger Ferry Feasibility Study to explore the feasibility and the economic impact of a passenger ferry system as a complementary or an alternative way of travel. Anne Arundel County anticipates ferry service for tourism purposes, and not congestion relief opportunities for the Bay Crossing.

MOVING FORWARD

The MDTA recommends evaluating vehicular and passenger ferry service options to potentially include as part of build alternatives.

MOVING FORWARD

The MDTA recommends evaluating high-capacity transit options to potentially include as part of build alternatives.

High-Capacity Transit

- High-capacity transit offers frequent scheduled service, limited stops, and fast travel speeds. It operates within its own right-of-way.
- Options for High-Capacity Transit include:
  - passenger rail - such as Amtrak™,
  - commuter rail - such as MTA MARC Train,
  - heavy rail - such as MTA Metro SubwayLink,
  - light rail - such as MTA Light RailLink, and
  - bus rapid transit (BRT) - similar to light rail but uses high-quality buses instead of trains. Travels in dedicated lanes.
- All options would have environmental impacts, construction impacts, and operating & maintenance costs.

Bus Service

- Several types of bus service could be feasible:
  - expanded local bus service,
  - expanded commuter bus service, and
  - intercity bus service.
- Bus service can support the Parole Transit Center (currently under construction).
- Bus service would have operational costs and require new infrastructure, which could result in additional environmental impacts.
- Potential priority treatments for bus include:
  - 24-hour dedicated transit lane,
  - congested-period only dedicated transit lane,
  - bus-on-shoulder operation, and
  - queue jump lanes.

MOVING FORWARD

The MDTA will continue working with MTA and local service providers to evaluate bus service enhancements to potentially include as part of build alternatives.

MOVING FORWARD

The MDTA will continue to evaluate TSM/TDM to potentially include as part of build alternatives.

TSM/TDM

Transportation Systems Management (TSM) and Transportation Demand Management (TDM) consist of infrastructure and operational changes that would improve conditions on the existing roadway network with or without adding major new infrastructure capacity. There are two categories of potential TSM and TDM improvements that could be studied with or without new infrastructure capacity.

Category A

Can be implemented with or without additional capacity.

- Congestion pricing
- Ramp metering
- Access management

Category B

Can only be implemented with additional capacity.

- Express-local lanes
- Managed lanes
- Part-time shoulder use lanes

Other Projects in the Corridor

Chesapeake BAY CROSSING STUDY
TIER 2 NEPA

Maryland Transportation Authority
MDTA

U.S. Department of Transportation
Federal Highway Administration

Have Your Voice Heard!

Thank you for participating in this Open House. Comments received will help shape the Tier 2 Study alternatives and environmental impact assessment.

How to comment:

- Please submit your comments about the information presented during this Open House by Monday, October 16, 2023, via mail, email or study website.
- You can access the comment form online at **baycrossingstudy.com** or by scanning the QR Code.

Visit the Bay Crossing Study website to:

- sign up for future project notifications,
- participate in future public involvement opportunities,
- take public engagement and equity surveys,
- receive Study updates and news, and
- view Open House boards.

Fill out a comment form:
baycrossingstudy.com

Email comments to:
info@baycrossingstudy.com

Send comments by mail to:
Bay Crossing Study
2310 Broening Highway
Baltimore, MD 21224

Call:
667-203-5408

E-ZPass

MARYLAND TOLL ROADS ARE CASHLESS

FOUR WAYS TO PAY YOUR WAY!

1. E-ZPass
2. Maryland PAY BY PL8
3. VIDEO TOLLING
4. 3RD PARTY TOLLING APPS

DriveEzMD MDTA Maryland Transportation Authority

DriveEzMD.com

Chesapeake BAY CROSSING STUDY
TIER 2 NEPA

MDTA Maryland Transportation Authority

U.S. Department of Transportation Federal Highway Administration

Thank you for attending.

We look forward to hearing from you!