# **MARYLAND TRANSPORTATION AUTHORITY**

## **PROPOSED TOLL RATE RANGE SETTING PROCESS**

## PHASE 1 SOUTH: AMERICAN LEGION BRIDGE I-270 TO I-370



May 20, 2021



# **AGENDA**

I.	INTRODUCTION1
Α.	Key Elements of Travel with HOT Lanes2
В.	Cost of Doing Nothing
C.	Statute & COMAR
D.	Presentation Purpose
II.	DYNAMIC TOLLING & TOLL RATE RANGE SETTING PROCESS
Α.	Dynamic Pricing
В.	Setting Toll Rate Ranges on a Dynamically Priced Facility5
C.	Toll Rate Range Setting Process
1.	Hearing Announcement6
2.	Hearing Process6
3.	Post Hearing Process7
D.	Toll Rate Range Setting Flowchart8
III.	DUE DILIGENCE10
IV.	PROPOSED TOLL RATE RANGE AND SOFT RATE CAP12
Α.	Toll Rate Ranges (Minimum and Maximum Toll Rates) and Soft Rate Caps within the Ranges 12
1.	Minimum Toll Rate12
1. 2.	Minimum Toll Rate
1. 2. 3.	Minimum Toll Rate
1. 2. 3. 4.	Minimum Toll Rate
1. 2. 3. 4. 5.	Minimum Toll Rate
1. 2. 3. 4. 5. B.	Minimum Toll Rate
1. 2. 3. 4. 5. B. 1.	Minimum Toll Rate
1. 2. 3. 4. 5. B. 1. 2.	Minimum Toll Rate
1. 2. 3. 4. 5. B. 1. 2. 3.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21
1. 2. 3. 4. 5. B. 1. 2. 3. C.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21Escalation21
1. 2. 3. 4. 5. B. 1. 2. 3. C. 1.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21Escalation21Minimum Toll Rate Escalation Factor21
1. 2. 3. 4. 5. B. 1. 2. 3. C. 1. 2.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21Escalation21Minimum Toll Rate Escalation Factor21Maximum Toll Rate Escalation Factor22
1. 2. 3. 4. 5. B. 1. 2. 3. C. 1. 2. 3.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21Escalation21Minimum Toll Rate Escalation Factor21Maximum Toll Rate Escalation Factor22Soft Rate Cap Escalation Factor22Soft Rate Cap Escalation Factor22
1. 2. 3. 4. 5. 8. 1. 2. 3. C. 1. 2. 3. D.	Minimum Toll Rate12Soft Rate Caps12Maximum Toll Rate12Escalation13Proposed Toll Rate Ranges13How will this be implemented?15Minimum Toll15Soft Rate Cap16Maximum Toll Rate21Escalation21Minimum Toll Rate Escalation Factor21Maximum Toll Rate Escalation Factor22Soft Rate Cap Escalation Factor22Anticipated Customer Experience23

PROPOSED TOLL RATE RANGE SETTING PROCESS PHASE 1 SOUTH: AMERICAN LEGION BRIDGE I-270 TO I-370



2	. Average Tolls
3	. Potential Trips24
v.	COMMUNICATIONS PLAN AND SCHEDULE
VI.	APPROVAL TO ADVERTISE STAFF'S PROPOSAL TO BEGIN THE TOLL SETTING PROCESS29
Α.	Minimum Toll Rates
В.	Soft Rate Caps
C.	Maximum Toll Rates
D.	Escalation
E.	Proposed Toll Rate Ranges
VII.	ATTACHMENTS
Α.	Attachment 1: Toll Rate Range Setting Process Virtual Boards32
В.	Attachment 2: Toll Rate Range Setting Process Virtual Boards Script (accompanies the boards) 68
C.	Attachment 3: Soft Rate Cap Video and Script
D.	Attachment IV: Vehicle Classifications

# **TABLES and GRAPHS**

Table IV-1: Toll Rates & Free Passage1	33
Table IV-2: Demand Factor	16
Graph IV-3: Estimated Weekday Toll Rate Frequency Example	16
Table IV-4: Estimated Frequency Soft Rate Cap is Exceeded and Prevented from Increasing (Count)	18
Table IV-5: Estimated Frequency Soft Rate Cap is Exceeded and Prevented from Increasing (%)1	.9
Table IV-6: Average Tolls	23



#### I. INTRODUCTION

After two years of due diligence work, the Maryland Transportation Authority (MDTA) staff is pleased to present to the MDTA Board, a proposal for toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370, the first dynamically tolled transportation facility in Maryland. This proposal includes minimum toll and maximum toll rate ranges, soft rate caps, a process for annual toll escalation, and toll discounts for certain types of vehicles. Maryland law requires the establishment of toll rate ranges for variably priced facilities, including those utilizing dynamic pricing. The MDTA is the only State entity with the authority to set, revise, and fix tolls for State transportation facilities and will be responsible for setting toll rate ranges and conducting toll collection operations for the Phase 1 South: American Legion Bridge I-270 to I-370 project. The proposal is limited in focus to solely Phase 1 South: American Legion Bridge I-270 to I-370. Any action to set, revise and fix tolls outside of Phase 1 South: American Legion Bridge I-270 to I-370 would require a separate toll setting process in accordance with State law.

After several months of continuous collaboration and listening to agency partners, public officials and stakeholders, the Federal Highway Administration (FHWA) and the Maryland Department of Transportation State Highway Administration (MDOT SHA) have identified Alternative 9: Phase 1 South as the new Recommended Preferred Alternative (RPA) for the Managed Lanes Study (MLS). The new RPA focuses solely on building a new American Legion Bridge and delivering two high occupancy toll (HOT) managed lanes in each direction on Phase 1 South: American Legion Bridge I-270 to I-370 with no action at this time on I-495 east of the I-270 eastern spur.

In late summer 2021, FHWA and MDOT SHA will issue a Supplemental Draft Environmental Impact Statement (SDEIS) for Alternative 9: Phase 1 South: American Legion Bridge I-270 to I-370 for public and agency comment. Consistent with Alternative 9 in the Draft Environmental Impact Statement (DEIS) published in July 2020, the RPA, Alternative 9: Phase 1 South: American Legion Bridge I-270 to I-370, proposes adding two HOT managed lanes in each direction from the George Washington Memorial Parkway in Virginia, across a new American Legion Bridge, to east of MD 187 on I-495. On I-270 from I-495 to north of I-370 and on the I-270 eastern spur from east of MD 187 to I-270, the new alternative proposes adding one HOT managed lane and converting the existing high-occupancy vehicle (HOV) lane into a HOT managed lane, resulting in a network of two HOT managed lanes in each direction.

MDOT SHA and FHWA continue to consider all comments that were received as part of the DEIS and public hearings held last fall and continue to work with agencies and stakeholders to avoid and minimize impacts to the environment and the communities in the study area. The agencies will respond to substantive comments received on both the DEIS and the SDEIS in the study's combined Final Environmental Impact Statement/Record of Decision (FEIS/ROD).

In the Alternative 9: Phase 1 South RPA, existing general-purpose travel lanes throughout the corridor will be retained and will remain free for use by all motorists. Drivers with less than three occupants in the vehicle would only pay if they choose to use the HOT lanes. HOV3+ will allow carpools, vanpools and other vehicles carrying three or more people to travel faster and more reliably in the new HOT lanes free of charge any time of day. Buses and motorcycles also will be granted free passage on the new HOT lanes free of charge, providing opportunities for a faster, more reliable trip.



The new RPA will address existing traffic and long-term traffic growth, enhance trip reliability, provide additional travel options and improve the movement of goods and services within Phase 1 South: American Legion Bridge I-270 to I-370. This new RPA will provide significant pedestrian and bicycle commitments to improve the connectivity of area sidewalks and trails, including the addition of a multiuse trail on the new American Legion Bridge across the Potomac River. Delivering the new American Legion Bridge will serve as the primary link between key economic centers in Maryland and Virginia.

The toll-setting process is just for Phase 1 South: American Legion Bridge I-270 to I-370. Phase 1 South: American Legion Bridge I-270 to I-370 is part of Phase 1: American Legion Bridge I-270 to I-70 Relief Plan that will be designed and developed using a multi-step Progressive public-private-partnership (P3) model. MDOT SHA and the MDTA will soon begin working with the Phase 1 Developer and all stakeholders on the best ways to advance the preliminary design to further avoid and minimize impacts to environmental resources, communities, properties, utilities, and other features by working with the counties, municipalities, state and federal agencies, property owners, utilities, and citizens.

After this significant collaborative effort, and only if the FHWA and MDOT SHA Phase 1 South Recommended Preferred Alternative is selected under the National Environmental Policy Act (NEPA) environmental review, MDOT would seek final approval from the Board of Public Works (BPW) to move forward with a Section P3 Agreement for the first section of Phase 1, Phase 1 South, which would be focused on the American Legion Bridge and I-270, and connecting with our partners in Virginia to advance final design, construction, financing, operations, and maintenance for 50 years.

The next step is seeking approval from the MDTA Board to proceed with public hearings to begin the toll rate range setting process.

#### A. Key Elements of Travel with HOT Lanes

HOT lanes are similar to Express Toll Lanes (ETL), except they provide an opportunity for free passage for certain vehicle types when vehicle occupancy meets or exceeds a predetermined number of passengers or other designated vehicles. Whereas, ETL does not provide a free option.

- HOT lanes operate at 45 mph or higher while average speeds in the general-purpose lanes also improve as drivers choosing HOT lanes reduces the number of vehicles in the general-purpose lanes.
- Improvements in speed and travel time encourage use of the interstate and reduce cut-through traffic on local roadways.
- The free passage discount will be granted along the Phase 1 South: American Legion Bridge I-270 to I-370 HOT lanes for HOV 3+, buses and motorcycles.
- By granting free passage to HOV 3+, buses and motorcycles, these new lanes will: give people a more reliable trip, provide more equitable opportunities with the option to travel free, reduce dependence on single-occupancy vehicles (SOV), and create new opportunities for ride sharing supporting regional planning efforts to expand HOT/HOV usage.
- Operationally compatible with Express/HOT lanes in VA.
- Allows for increased speeds for buses in HOT lanes by providing free-flow traffic and assuring a reliable trip.



- Supplies HOT lane connections to existing transit service on local roads that serve offices, shops, and entertainment centers.
- Provides connections that support existing and future transit service to underserved communities and businesses.

#### B. Cost of Doing Nothing

The cost of doing nothing is overwhelming. If MDOT and the MDTA do not proceed with the Phase 1 South: American Legion Bridge I-270 to I-370, Maryland has no funding options for replacing and improving the American Legion Bridge and I-270 to I-370. It would cost the State billions of dollars just to maintain the American Legion Bridge, I-270 to I-370, and the many associated elevated structures in a state of good repair. Without a P3, those funds could no longer be used for other projects around the State. Phase 1 South: American Legion Bridge I-270 to I-370 alone will invest billions of dollars of private funding in critical infrastructure and help with Maryland's economic recovery by creating thousands of local, good paying jobs and supporting freight movement throughout the National Capital Region, the Helen Delich Bentley Port of Baltimore and the Baltimore/Washington International Thurgood Marshall Airport.

#### C. Statute & COMAR

The MDTA has the responsibility under Maryland law to fix, revise, and set toll rates in accordance with Transportation Article §4-312 of the Annotated Code of Maryland and Code of Maryland Regulations (COMAR) Title 11 Department of Transportation, Subtitle 07 MDTA, Chapter 05 Public Notice of Toll Schedule Revisions (11.07.05). As a partner in Phase 1: the American Legion Bridge I-270 to- I-70 Relief Plan, the MDTA is presenting the proposed toll rate ranges to the MDTA Board today. If the MDTA Board votes to take the proposal to public hearings, a public comment period and hearings will follow. The toll rate range setting process will conclude with a presentation of the final recommended toll rate ranges to the MDTA Board for approval. The staff's toll proposal and toll rate range setting process will address the toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370. The establishment of toll rate ranges for areas outside of Phase 1 South: American Legion Bridge I-270 to I-370 will require separate toll rate range setting process(es), including public hearings, in accordance with State law.

#### D. Presentation Purpose

The purpose of this presentation is for MDTA staff to formally present the proposed toll rate ranges and soft rate cap within the ranges to the MDTA Board and MDTA Executive Director and to seek approval to advertise the staff's proposal to begin the toll setting process.

Due to the complexity of the toll rate range setting information, the MDTA staff provided an update to the MDTA Board at the February 25, 2021 Board meeting about preliminary toll rate range setting information for Phase 1 South: American Legion Bridge I-270 to I-370 to prepare in advance of today's request to initiate the public comment and hearing process. The February 25<sup>th</sup> meeting was not part of the official Phase 1 South: American Legion Bridge I-270 to I-370 toll rate range setting process and was intended as a primer on the complex information being presented today. Certain information has been updated since the first presentation in February.



If approved by the MDTA Board, today's meeting kicks off the official toll rate range setting process and includes a presentation of the proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370 and will conclude with a request for approval to take the proposed toll rate range information to public hearings. If the MDTA Board votes to take the proposed toll rate ranges to public hearings, then the official statutory public comment period will begin today, May 20, 2021.

Today's meeting and the toll rate range setting public hearings are not part of the federal NEPA process. The MDTA is committed to transparency and meeting its statutory obligations, while upholding the integrity of the separate and distinct NEPA and solicitation process.

#### Key Takeaways:

- MDTA is presenting a staff proposal for the MDTA Board to initiate the toll rate range setting process, including minimum toll and maximum toll rate ranges, soft rate caps, a process for annual toll escalation, and toll discounts for certain types of vehicles.
- The MDTA Board is not voting on a proposal, rather just voting to begin the toll rate range setting process.



#### II. DYNAMIC TOLLING & TOLL RATE RANGE SETTING PROCESS

There are two types of toll facilities:

- Fixed price toll facility: vehicles are subject to a set toll rate regardless of the time of day or congestion level. This applies to most MDTA facilities.
- Variably priced toll facility: vehicles are subject to a set toll on some or all lanes that can vary based on (1) time of day pricing or (2) dynamic pricing. MD 200 (the Intercounty Connector) and I-95 ETL are examples of time of day variably priced facilities. Maryland currently has no dynamically priced facilities.

#### A. Dynamic Pricing

Dynamic pricing is a method of calculating the toll where the pricing mileage rate varies within the approved toll rate range in real time. A dynamic facility uses operational metrics to adjust the toll in real time. Toll rates adjust to maintain free-flowing traffic by using pricing factors to influence the traffic flow—when lanes become more congested, the toll increases, and when the lanes become less congested, the toll decreases. Tolls will be collected electronically at highway speeds, using overhead gantries, with no toll plazas or toll booths (cashless tolling). Similar to the ICC and I-95 ETL, current toll rates for common destinations will be displayed on electronic roadway signs allowing drivers to know their toll prior to entering the HOT lanes.

Variably priced toll facilities require the establishment of toll rate ranges (minimum and maximum) for each vehicle classification and payment method. The MDTA Board is also responsible for establishing an annual escalation process and discount programs (including free passage) such as HOV 3+ or any other designated vehicles. Under dynamic pricing, per State law, the soft rate cap is not established by the MDTA Board, but rather is set by the MDTA Executive Director.

#### B. Setting Toll Rate Ranges on a Dynamically Priced Facility

MDTA's primary focus when establishing or adjusting toll rates for its existing toll facilities is the adequacy of revenue to ensure it can meet its fiscal responsibilities to operate, maintain, and finance its facilities. Traffic and revenue models help staff determine the revenue impact for various toll rate scenarios. The Phase 1 South: American Legion Bridge I-270 to I-370 requires a shift in mindset when establishing toll rate ranges. Rather than solely focusing on revenue, the Phase 1 South: American Legion Bridge I-270 to I-370 is designed to maintain speeds of 45 mph or greater in the HOT lanes. The goal of the HOT lanes is to maintain free-flowing traffic and to use pricing factors to influence traffic flow. As such, the toll rate ranges need to apply economic supply and demand principles to influence the utilization of the HOT lanes. The Phase 1 Section Developer will be responsible for setting toll rates within the established toll rate ranges, if approved at the end of the toll rate range setting process.



#### C. Toll Rate Range Setting Process

The toll rate range setting process is centered around a proposal by the MDTA staff to establish minimum toll rates, maximum toll rates, soft rate caps within the minimum and maximum toll rate ranges, a process for annual toll escalation, and toll discounts for certain types of vehicles. Today, if the MDTA Board decides to take the toll rate range information to public hearings, the MDTA will ensure the public is engaged in the toll rate range setting process and comply with State law by providing opportunities for public review and comment on the proposal at one or more meetings held at a time and place of convenience to the public in the county where the toll rate ranges are proposed to be implemented. The MDTA is planning virtual and in-person public hearings to seek public testimony. The public will be able to listen live to the hearings via telephone or livestream. Testimony will be accepted in-person, electronically, voicemail, and by mail. All testimony, whether at the hearing or through other methods will be given equal consideration and become part of the official record. Additionally, all public hearing materials will be available in a Virtual Information Room. These materials can be found in the Attachment Section. After the hearings, additional MDTA Board meetings will be held, and additional public comment periods will occur. The toll rate range setting process will conclude with a final vote by the MDTA Board on the final toll rate range recommendation. The full toll rate range setting process is explained in more detail below. The most recent example of this toll-setting process occurred via the Toll Modernization when new or revised toll rates were established for motorcycles, 3- and 4-axle light vehicles and the new Pay-by-Plate payment method; and a discount for the early payment of Notice of Toll Due.

#### 1. Hearing Announcement

The MDTA staff will present the proposed toll rate ranges at today's MDTA Board Meeting to obtain approval from the MDTA Board to initiate the toll rate range setting process and proceed with holding public hearings. The material presented will include the background and justification for the toll rate ranges (minimum and maximum per-mile rates), soft rate caps within the ranges, and discounts, as well as the process required for completing the hearings. At the time of the staff proposal, the MDTA Board is not voting on the information being presented; rather, the MDTA Board is agreeing to initiate the toll rate range setting process and proceeding with public hearings. Once the staff proposal has been presented publicly to the MDTA Board, it will be posted on the MDTA's website.

#### 2. Hearing Process

The process for conducting the public hearings and recording comments from the public is specified in Transportation Article, §4-312, Annotated Code of Maryland. Here are the steps of the process:

- Today, the MDTA staff is presenting the toll rate range proposal to the MDTA Board via a livestreamed meeting open to the public. At this meeting, the MDTA Board will be asked to vote on taking the toll rate range proposal to public hearings.
- Should the vote be in favor of taking the toll rate range proposal to public hearings, all public hearing materials, including information and studies used in the analysis to justify the toll rate range proposal, will be posted for public review and comment on the MDTA's webpage at <u>mdta.maryland.gov/ALB270TollSetting</u> on May 20, 2021. Posting on May 20<sup>th</sup> will exceed the required minimum 10 business days before the start of the first public hearing when information must be made available to the public on the MDTA webpage.
  - \*Public hearing dates will be announced at a later date.
- The MDTA would provide an opportunity for public review and comment on the proposed toll



rate ranges during public hearings.

- A quorum of the MDTA Board Members (i.e., a minimum of five MDTA Board Members) and the MDTA Board Chairman or his designee must be present at both the in-person and call-in testimony public hearings.
- After completing the last public hearing, the MDTA would continue to accept voicemail testimony and written comments from the public until **5:00 PM on August 12, 2021.** The public comment period must remain open for ten (10) business days after the last scheduled public hearing.

#### 3. Post Hearing Process

The process for approval and finalizing the proposed toll rate ranges is also specified in Transportation Article, §4-312, Annotated Code of Maryland. Here are the planned steps of the post-hearing process:

- At the August 26, 2021 MDTA Board Meeting, the MDTA staff will present a summary and analysis of comments received at an open meeting conducted via livestream. The comment posted summarv and analysis will be to the MDTA webpage at mdta.maryland.gov/ALB270TollSetting. During this Board Meeting, the MDTA staff will present the recommended action (recommended toll rate ranges) for Phase 1 South: American Legion Bridge I-270 to I-370. The public is welcome to watch the MDTA Board Meeting via livestream on the MDTA's webpage at mdta.maryland.gov/Meeting Schedules/MDTA Board Meeting Schedule.html.
- The MDTA must accept written comments on the recommended toll rate ranges for at least 10 business days after the August 26<sup>th</sup> Board Meeting. This second public comment period will exceed this requirement with a comment close date of **October 14, 2021 at 5 PM.**
- At the October 28, 2021 MDTA Board Meeting, the MDTA staff will present a summary and analysis of any public comments received during the second public comment period at an open meeting conducted via livestream or in-person. The comment summary and analysis will be posted to the MDTA webpage at mdta.maryland.gov/ALB270TollSetting. During this meeting, the MDTA Board will vote on the final toll rate range recommendation. Before the Board votes, the public will be provided a third opportunity to comment on the final toll rate range recommendation live during the MDTA Board Meeting. Pre-registration is required to comment during the MDTA Board Meeting. Registration details are available at mdta.maryland.gov/Meeting\_Schedules/MDTA\_Board\_Meeting\_Schedule.html.



#### D. Toll Rate Range Setting Flowchart





#### Key Takeaways:

- Dynamically priced toll facilities require the establishment of toll rate ranges (minimum and maximum) for each vehicle classification and payment method. The MDTA Board is also responsible for establishing an annual escalation process and discount programs (including free passage) such as HOV 3+, buses and motorcycles.
- The toll rate range setting process is a multi-step process codified in Maryland law that engages with the public through public hearings and official public testimony. Feedback received is presented to the MDTA Board prior to a final vote.



#### **III. DUE DILIGENCE**

Prior to presenting any toll proposal to the MDTA Board for consideration, MDTA analyzes tolling options in detail. Normally, this analysis leverages the deep understanding of the MDTA facilities, including factors related to traffic and revenue patterns, details about the customer base, and toll operations. Different toll rate levels are tested during the toll proposal development to determine the revenue impacts to identify the best outcome when considering these factors. Due to the congestion relief goal for Phase 1 South: American Legion Bridge I-270 to I370, certain factors needed to be considered differently in this toll proposal. One especially important factor in the due diligence process has been the assumption of dynamic tolling. Thus far, traffic demand on MDTA's variably priced facilities, MD 200/ICC and the I-95 Express Toll Lanes (ETLs), has not warranted changes to the fixed time-of-day toll rates. In contrast, demand for the Phase 1 South: American Legion Bridge I-270 to adequately manage congestion and ensure reliable trips for drivers.

The due diligence conducted by MDTA used a combination of a traffic and revenue model developed specifically for the facility, model analysis using data from other U.S. priced-managed lanes currently in operation, and input from priced-managed lane experts. In order to get a full perspective on the project, it was also prudent to receive input related to the preliminary toll rate ranges directly from the potential developers involved.

The traffic and revenue model was based on the Metropolitan Washington Council of Governments (MWCOG) regional travel demand model and then updated and enhanced for the facility. These updates incorporated detailed corridor counts, speeds, and origin-destination data as part of a model calibration effort. Considering future years, independent socioeconomic forecasts for the region with a focus on the facility influence area as well as future transportation projects were incorporated. The Virginia I-495 Express Lanes were included in the model enhancement effort allowing testing and refining of the model toll algorithm to actual priced managed lane utilization and revenue performance. The tolling algorithm in the updated and enhanced model was developed using the results of a stated preference survey conducted specifically for this project. The resulting average weekday model included a base year of 2017; future years 2025, 2035, 2045, and 2060; and 13 time periods. Considering the toll rate analysis process, the model provided estimated average (typical) toll rates for the years and time periods included.

After the model was completed, additional analysis was performed using data from other priced managed lanes currently in operation as part of the process for due diligence. There are relatively few of these projects with long operating histories. Most of the post-model data analyzed was from the Virginia I-495 Express Lanes project, which has several years of operating history and has the benefit of close geographic proximity to Phase 1 South: American Legion Bridge I-270 to I-370. Because the project model produced estimates of only average toll rates, the post-model data analysis focused on estimating the anticipated day-to-day variability in toll rates above and below the average. Additionally, because the model produced average toll rates for specific time periods and because toll rates may vary within time periods, the post-model data analysis also considered toll rate variability that would occur within the time periods.

Input from managed lane experts on the MDTA team informed both the model development and the postmodel analysis. When possible, the team also consulted with agencies already in P3 agreements for priced managed lane projects about aspects of toll setting including the Virginia Department of Transportation,



the Texas Department of Transportation, the Colorado Department of Transportation, and the North Carolina Turnpike Authority.

The due diligence efforts specifically focused on the preliminary maximum toll rate and escalation factors. The proposed maximum toll rates were estimated by reviewing the average toll rates from the project model while considering potential variability in toll rates in non-average conditions using month-to-month, within the hour, and day-to-day factors from post model analysis. Escalation factors were estimated by reviewing estimated growth in toll rates over time from the model results in combination with historical socioeconomic growth trends for the project region. MDTA's toll collection costs were especially important for the analysis of the minimum toll. This analysis also focused on estimating the potential revenue impact of different soft cap levels and the estimated frequency in which different soft cap levels could be reached by gantry, direction of travel, and time period.

Lastly, in order to get a full perspective on the project, it was prudent to receive input from the potential developers on developing the preliminary toll rate ranges. Feedback from the potential developers was reviewed and considered in the framework of the same overall due diligence process, as discussed at the February 25<sup>th</sup> Board meeting.

#### Key Takeaways:

- MDTA has spent two years conducting due diligence activities on the proposal being presented.
- Activities that led up to this proposal include:
  - Traffic and revenue studies
  - Post-model processing
  - Feedback from potential developers



#### IV. PROPOSED TOLL RATE RANGE AND SOFT RATE CAP

The proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370 will consist of minimum toll rates, soft toll rate caps, and maximum toll rates for the HOT lanes. The toll rate ranges will be set to ensure the HOT lanes operate to established operational metrics and provide managed lane users with a faster and more reliable trip. The rates will also include annual escalation factors to ensure the toll rate ranges are adequate to cover the full term of the P3 Program agreements (anticipated to be 50 years). The parameters for these toll rate ranges are described in this section. Toll rates will be set dynamically, meaning they could change up to every five minutes based on traffic volumes or speed in the HOT lanes to provide customers who choose to pay a toll a faster and more reliable trip. The actual toll rates will change based on real-time traffic within each tolling segment.

The toll rate ranges will only apply to the HOT lanes; the existing free general-purpose lanes will not be tolled. In addition, the proposal will include discounts for qualifying vehicles—including HOV 3+ (including car-vanpools), buses and motorcycles. It is important to note that these toll rate ranges would apply only if the MDOT Recommended Preferred Alternative is approved in the FEIS and ROD and if BPW approves a Phase 1 Developer.

# A. Toll Rate Ranges (Minimum and Maximum Toll Rates) and Soft Rate Caps within the Ranges

#### 1. Minimum Toll Rate

The minimum toll rate is the lowest toll rate per mile that will be charged at any tolling segment for the HOT lanes or the lowest total toll a customer will pay regardless of how far they travel. The minimum toll rate is intended to cover toll capture, processing and collection costs.

#### 2. Soft Rate Caps

The soft rate cap is the toll rate amount that can only be exceeded when at least one of the following thresholds are met within a given tolling segment during the preceding five-minute period: the average traffic volume exceeds 1,600 passenger car equivalent vehicles per hour per lane (PCEphpl) or the average speed in a tolling segment is below 50 mph. The soft rate cap will always be lower than the maximum toll rate and can be exceeded only temporarily to provide customers who choose to pay a toll, a faster and more reliable trip. The toll rate will continue to decrease once throughput and speed performance targets are achieved until it is at or below the soft rate cap.

MDTA is proposing the soft rate cap as a protection for our customers. The purpose of the soft rate cap is to constrain the toll rate charged to customers when throughput and speed performance targets are achieved. This provides customers protection from price gouging when traffic conditions do not justify higher rates. Although not standard practice in the tolling industry, the MDTA is choosing to be one of only two states in the United States to set a soft rate cap to constrain the toll rate as a protective measure for customers.

#### 3. Maximum Toll Rate

The maximum toll rate is the highest per-mile toll rate that may be charged within any tolling segment for the HOT lanes. The actual per-mile rate paid by customers is responsive to real-time traffic. The maximum



rates cannot be exceeded under any circumstance. The maximum rate will only be realized under conditions where the soft rate cap is exceeded, which would be during times of deteriorating performance. In extremely rare circumstances, when traffic demand is very high and customers are experiencing decreased speeds in a given tolling segment, the toll rate may reach the maximum toll rate. The toll rate is determined on a segment-by-segment basis. The maximum toll rate is required for the most congested tolling segments and likely would not come into effect for many segments.

#### 4. Escalation

The MDTA staff proposes the minimum and maximum toll rate ranges, and the soft rate cap within, will be adjusted annually according to pre-determined escalation factor equations. The adjustments are necessary to ensure the toll rates will (1) keep up with the growing traffic demand for the HOT lanes, (2) endure annual inflation, and (3) achieve the goal of providing a faster and more reliable trip for customers who choose to pay the toll over the life of Phase 1 South: American Legion Bridge I-270 to I-370. Inflation causes the value of money to decrease over time (applies to the minimum and maximum toll rate ranges, soft rate cap within, minimum toll rates, and the unregistered video surcharge). Growth in demand considers changes in population, employment, and income above inflation.

#### 5. Proposed Toll Rate Ranges

The proposed toll rate ranges, which are provided in the table below in cost per mile (\$/mile), include the minimum and maximum toll rate ranges and soft rate caps within, for all vehicle classifications and payment types. The vehicle classifications, payment methods and associated multipliers are consistent with existing MDTA facilities. Vehicle classifications can be found in the Attachment Section. For example, the 3-axle light multiplier is 1.5x the 2-axle rate for the same payment type and the multiplier between Video Tolling (unregistered video) and electronic toll collection (ETC) for the same vehicle classification is 1.5x. The Executive Director may set or adjust the soft rate cap, operational metrics, or toll zones consistent with the toll ranges established by the MDTA Board.



#### Table IV-1: Proposed Toll Rate Ranges, Soft Rate Caps, Discounts & Free Passage

				HOT L	ANES				
	GENERAL		Propose	d Toll Rage F	langes				
VEHICLE TYPE	PURPOSE LANES	Payment Type	Minimum Toll Rate Range <sup>2</sup>	Soft Cap Rate	Maximum Toll Rate Range	Vanpools Carpools	Buses Motorcycles		
Passenger Vehicle (2-axle)		Flootropic	\$ 0.20	\$ 1.50	\$ 3.76				
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00				
3-axle Light		Electronic	\$ 0.30	\$ 2.25	\$ 5.64				
3-axle Heavy	Free	1011 Collection	\$ 0.40	\$ 3.00	\$ 7.53	Free	Ггор		
4-axle Light	Free		\$ 0.51	\$ 3.75	\$ 9.41	Free	Free		
4-axle Heavy		(ETC)	\$ 0.61	\$ 4.50	\$ 11.29				
5-axle		(L-2F 033)	\$ 1.21	\$ 9.00	\$ 22.58				
6+-axle			\$ 1.52	\$ 11.25	\$ 28.22				
Passenger Vehicle (2-axle)			\$ 0.25	\$ 1.88	\$ 4.70				
Motorcycle		Pay-By-	\$ 0.00	\$ 0.00	\$ 0.00	Free			
3-axle Light		Plate	\$ 0.38	\$ 2.81	\$ 7.05		Free		
3-axle Heavy	Free	(Registered	\$ 0.50	\$ 3.75	\$ 9.41				
4-axle Light	riee	Video)	\$ 0.64	\$ 4.69	\$ 11.76				
4-axle Heavy		(1.25x ETC)	\$ 0.76	\$ 5.63	\$ 14.11				
5-axle			\$ 1.51	\$ 11.25	\$ 28.23				
6+-axle			\$ 1.90	\$ 14.06	\$ 35.28				
Passenger Vehicle (2-axle)			\$ 0.30	\$ 2.25	\$ 5.64				
Motorcycle		Video	\$ 0.00	\$ 0.00	\$ 0.00				
3-axle Light		Tolling <sup>1,4</sup>	\$ 0.46	\$ 3.38	\$ 8.47				
3-axle Heavy	Free	(Uprogistor	\$ 0.61	\$ 4.50	\$ 11.29	Froo	Froo		
4-axle Light	Free	(Unregister	\$ 0.76	\$ 5.63	\$ 14.11	Fiee	Fiee		
4-axle Heavy		(1 5x FTC)	\$ 0.91	\$ 6.75	\$ 16.93				
5-axle		(1.5x ETC)	\$ 1.82	\$ 13.50	\$ 33.86				
6+-axle			\$ 2.28	\$ 16.88	\$ 42.33				

<sup>1</sup> Total unregistered video surcharge (difference between ETC toll and unregistered video toll amount) cannot exceed \$15.00 per trip. The surcharge is subject to escalation as defined below.

<sup>2</sup> The minimum trip toll (not per mile) by payment type for all vehicle types would be \$0.50 for customers using E-ZPass, \$0.63 for customers using Pay-By-Plate (Registered Video), and \$0.75 for customers using Video Tolling (Unregistered Video).

<sup>3</sup> Escalation formulas can be found at <u>mdta.maryland.gov/ALB270TollSetting</u> and in Section C below.

<sup>4</sup> Customers can receive an early payment discount of 15% off their toll up to \$5 for unregistered video trips if paid before notice is mailed.



#### B. How will this be implemented?

#### 1. Minimum Toll

When a vehicle enters the toll facility, it will be charged a toll that is either the minimum toll rate per mile, or it will be charged the minimum toll, depending on how far the vehicle travels. The minimum toll rate is the lowest rate a vehicle would need to pay per mile, and the minimum toll is the minimum amount of money a vehicle would have to pay regardless of how far they travel. Here is an example for two different passenger vehicles traveling on the facility at the same time of day, when the toll rate is dynamically set at its lowest rate (essentially a time of very low congestion and free flowing traffic) but traveling different distances:

- Vehicle 1 travels 3 miles, at a rate of \$0.20 per mile with ETC. The vehicle would be charged \$0.60 for this trip with ETC.
- Vehicle 2 travels 1 mile, at a rate of \$0.20 per mile with ETC. Since \$0.20 is less than \$0.50, the minimum toll for a single trip, the vehicle would be charged the minimum toll of \$0.50 for this trip with ETC.

Vehicle 1 travels 3 miles from Cross Road A to Cross Road C = [\$0.20/mile x 1 mile] + [\$0.20/mile x 2 miles] = \$0.60 total	
Vehicle 2 travels 1 mile from Cross Road A to Cross Road B = [\$0.20/mile x 1 mile] = \$0.20 = \$0.50 (minimum toll per trip	<b>)</b> )
Since \$0.20 is less than the minimum toll of \$0.50 per trip, Vehicle 2 would be charged the minimum toll of \$0.50 for this trip.	

	Toll Gantry #1 \$0.20/mile			Toll Ga \$0.20	ntry #2 I/mile		Toll Gantry #3 \$0.20/mile	
			Shoulder					
			HOT Lane	->				
			HOT Lane	->		¥		
		♥	General Purpose Lane	<b>→</b>	Remain Free			
			General Purpose Lane	<b>→</b>	Remain Free			
Inte		Inte	General Purpose Lane	<b>→</b>	Remain Free	Inte		Inter
chang		chang	General Purpose Lane	<b>→</b>	Remain Free	rchang		chang
ے ا		e Cro				eCri		ر س
l sso	1 mile	l sso	✓ <sup>2</sup>	! miles		\$\$0	2 miles	N SS
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#### 2. Soft Rate Cap

Although not standard practice in the tolling industry, the MDTA is choosing to be one of only two states in the United States to set a soft rate cap to constrain the toll rate as a protective measure for customers. The soft rate cap will be implemented temporarily to control the increase of the per-mile toll rate within a given tolling segment, not a whole trip. This ensures that the motorists who choose to pay a toll have a faster and more reliable trip. The soft rate cap will always be lower than the maximum toll rate and can be exceeded only temporarily to provide customers who choose to pay a toll, a faster and more reliable trip. The new toll rate cap (increased soft rate cap) within a segment will change no more frequently than once every five minutes, at most, to ensure the rates change in response to traffic or speed levels within that tolling segment.

During operations of the HOT lanes, if throughput or speed performance metrics are not met, the permile toll rate charged for a segment would temporarily increase to a revised toll rate cap. The throughput and speed performance metrics are as follows:

- The average traffic volume measured within a tolling segment during the preceding five-minute period does not exceed 1,600 PCEphpl. The PCE calculation assumes a factor of 1 for 2-axle vehicles and a factor of 2.5 for each 3-or-more-axle vehicle.
- The average speed measured in a segment during the preceding five-minute period is 50 mph or higher.

If either of these criteria are not met, the per-mile toll rates charged for that segment may temporarily exceed the soft rate cap and require vehicles to pay an increased (revised) toll rate. In these instances, the new, temporary toll rate cap for that segment will be calculated by multiplying the prior toll rate cap (either the soft rate cap or the previously revised toll rate cap when the performance metrics were not met) by a demand factor between 1.05 and 1.25, as described below:

#### Toll Rate Cap X Demand Factor = Revised Toll Rate Cap

The demand factor to adjust the revised toll rate cap in a segment is relevant to the average traffic volume or average speed measured in that segment during the preceding five-minute period as shown in Table IV-2:

Average Traffic Volume (PCEphpl)	Average Speed (mph)	Demand Factor
Greater than or equal to 1,600 and less than 1,650	Less than 50	1.05
Greater than or equal to 1,650 and less than 1,700	Less than 50	1.10
Greater than or equal to 1,700 and less than 1,750	Less than 50	1.15
Greater than or equal to 1,750 and less than 1,800	Less than 50	1.20
Greater than or equal to 1,800	Less than 50	1.25

#### Table IV-2: Demand Factor



Note that more flexibility is given in selecting demand factors for speeds below 50 mph to better ensure that motorists experience a faster and more reliable trip at or above 45 mph. With the speed performance metric, the developer can apply a demand factor ranging from 1.05 to 1.25.

Also note that a speed threshold of 50 mph is used here with the soft rate cap. This is higher than the 45 mph overall minimum speed desired for the HOT lanes. The 5 mph buffer is included here because the speeds are monitored in the previous 5-minute period to make toll rate changes in the next 5-minute period.

The toll rate will gradually return to the original soft rate cap after the throughput and speed performance metrics are met (the average traffic volume in a segment is below 1,600 PCEphpl and the average speed is at or above 50 mph). In these situations, the temporary, revised toll rate cap will be calculated by multiplying the prior revised toll rate cap by a demand factor of 0.90, which will decrease the revised toll rate until the revised toll rate cap equals the soft rate cap.

The revised toll rate cap cannot exceed the maximum toll rate. To help illustrate the mechanism by which the soft rate cap will be implemented, a link to a short video has been included with the material, and will be posted on the webpage (Attachment Section).

The soft rate cap benefits customers by lowering toll rates. Graph IV-3 shows the estimated percentage of weekdays toll rates are expected to be at or below the soft rate cap of \$1.50 and above the soft rate cap for a northbound HOT lane segment between River Road on I-495 and Westlake Terrace on I-270 West Spur during the six o'clock hour. The Graph IV-3 illustrates toll rates would be higher without the soft rate cap.



#### Graph IV-3: Estimated Weekday Toll Rate Frequency Example



Within this segment, without the soft rate cap, shown in red, about one-third of weekdays would have rates at or below \$1.50 per mile. Whereas with the soft rate cap, shown in blue, about two-thirds of weekdays would have rates at or below \$1.50. The frequency of the per mile rate at or below \$1.50 doubles with the soft rate cap because the traffic metrics tied to the cap constrain the per mile rate, providing toll protection to customers. The compression of the toll rate is shown in the blue point extending to the right. Without the soft rate cap, the toll rate would rise into the solid red area above the \$1.50 soft rate cap.

The Tables IV-4 and IV-5 show the estimated number of non-holiday weekdays that the soft rate cap could be reached, but not allowed to increase (green columns), or reached and exceeded due to traffic conditions (red columns). The soft rate cap is generally reached and/or exceeded between 4:00 PM to 6:00 PM, primarily on the inner loop. The highest occurrences are at or near the American Legion Bridge.

For example, in the 6:00 PM to 6:59 PM column in the third row from the top - from River Road to I-495 (inner loop), East of the I-270 West Spur - it is estimated the soft rate cap would be reached but not allowed to be exceeded on about 186 weekdays, or about 74 percent of the time. It is estimated that the developer could have charged a rate higher than the soft rate cap on these weekdays if the soft rate cap would not have been in place. However, with the soft rate cap in place, it is estimated the volume and speed thresholds allowing the rate to go above the soft rate cap were not met on these 186 weekdays. In this same time period and segment, it is estimated that the soft rate cap would be exceeded on about 34 weekdays, or about 14 percent of the time. On these days, either the speed or volume performance metric was not met, allowing the toll rate to rise above the soft rate cap.



#### Table IV-4: Estimated Frequency Soft Rate Cap is Exceeded and Prevented from Increasing (Count)

											_													
Segment	5:00/	5:00AM to 6:59AM		5:00AM to 6:59AM		5:00AM to 7:0 6:59AM 8		7:00AM to 9:00AM to 8:59AM 9:59AM		AM to 9AM	10:00AM to 2:59PM		3:00PM to 3:59PM		1 4:00PM to 5:59PM		A 6:00PM to 6:59PM 7:00PM to 7:59PM			o 7:59PM	8:00PM to 11:59PM		12:00AM to 5:59AM	
	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Exceeded Due to Traffic Conditions				
George Washington Parkway to River Road (ALB IL)	-	-	34	60	1	1	-	-	2	2	168	80	155	74	4	4	-	-	-	-				
River Road to George Washington Parkway (ALB OL)	-	-	-	-	1	1	-	-	5	6	32	22	5	6	-	-	-	-	-	-				
River Road to I-495 (East of I-270 West Spur) (IL)	-	-	-	4	-	-	-	-	-	-	3	29	34	186	1	7	-	-	-	-				
I-495 (East of I-270 West Spur) to River Road (OL)	-	-	-	-	-	-	-	-	1	4	11	51	1	7	-	-	-	-	-	-				
River Road to Westlake Terrace (MD I-495 IL / I-270 W Spur NB)	-	-	-	-	-	-	-	-	-	-	156	74	85	85	-	-	-	-	-	-				
Westlake Terrace to River Road (MD I-495 OL / I-270 W Spur SB)	-	-	-	-	1	1	-	-	-	-	5	14	1	4	-	-	-	-	-	-				
l-270 East Spur to l-270 @ East Spur/West Spur Interchange (NB)	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-				
I-270 @ East Spur/West Spur Interchange to I-270 East Spur (SB)	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Westlake Terrace to Wootton Parkway (I-270 NB)	-	-	-	-	-	-	-	-	-	-	34	48	29	47	-	-	-	-	-	-				
Wootton Parkway to Westlake Terrace (I-270 SB)	-	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Wootton Parkway to Gude Drive (I-270 NB)	-	-	-	-	-	-	-	-	-	-	39	27	49	27	-	-	-	-	-	-				
Gude Drive to Wootton Parkway (I-270 SB)	-	-	4	2	б	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Gude Drive to I-370 (I-270 NB)	-	-	-	-	-	-	-	-	-	-	53	29	72	30	-	-	-	-	-	-				
I-370 to Gude Drive (I-270 SB)	-	-	9	4	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-				



#### Table IV-5: Estimated Frequency Soft Rate Cap is Exceeded and Prevented from Increasing (Percentage)

Segment	5:00AM to 6:59AM		5:00AM to 7:00AM to 6:59AM 8:59AM		9:00AM to 9:59AM		10:00AM to 2:59PM		3:00PM to 3:59PM		1 4:00PM to 5:59PM 6:00PM to 6		o 6:59PM 7:00PM to 7:59PM		8:00PM to 11:59PM		12:00AM to 5:59AM			
	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Reached But Not Allowed to Exceed	\$1.50 Exceeded Due to Traffic Conditions	\$1.50 Exceeded Due to Traffic Conditions
George Washington Parkway to River Road (ALB IL)	-	-	13%	24%	1%	1%	-	-	1%	1%	67%	32%	<b>6</b> 1%	29%	1%	2%	-	-	-	-
River Road to George Washington Parkway (ALB OL)	-	-	-	-	1%	1%	-	-	2%	2%	13%	9%	2%	2%	-	-	-	-	-	-
River Road to I-495 (East of I-270 West Spur) (IL)	-	-	-	2%	-	-	-	-	-	-	1%	12%	14%	74%	1%	3%	-	-	-	-
l-495 (East of l-270 West Spur) to River Road (OL)	-	-	-	-	-	-	-	-	1%	2%	5%	20%	1%	3%	-	-	-	-	-	-
River Road to Westlake Terrace (MD I-495 IL / I-270 W Spur NB)	-	-	-	-	-	-	-	-	-	-	62%	29%	34%	34%	-	-	-	-	-	-
Westlake Terrace to River Road (MD I-495 OL / I-270 W Spur SB)	-	-	-	-	1%	1%	-	-	-	-	2%	6%	1%	2%	-	-	-	-	-	-
l-270 East Spur to l-270 @ East Spur/West Spur Interchange (NB)	-	-	-	-	-	-	-	-	-	-	-	-	-	1%	-	-	-	-	-	-
l-270 @ East Spur/West Spur Interchange to l-270 East Spur (SB)	-	-	-	-	-	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Westlake Terrace to Wootton Parkway (I-270 NB)	-	-	-	-	-	-	-	-	-	-	14%	19%	12%	19%	-	-	-	-	-	-
Wootton Parkway to Westlake Terrace (I-270 SB)	-	-	-	-	1%	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wootton Parkway to Gude Drive (I-270 NB)	-	-	-	-	-	-	-	-	-	-	15%	11%	20%	11%	-	-	-	-	-	-
Gude Drive to Wootton Parkway (I-270 SB)	-	-	2%	1%	2%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gude Drive to I-370 (I-270 NB)	-	-	-	-	-	-	-	-	-	-	21%	12%	<b>29</b> %	12%	-	-	-	-	-	-
l-370 to Gude Drive (l-270 SB)	-	-	3%	2%	2%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Number of weekdays based on 252 days



#### 3. Maximum Toll Rate

The maximum toll rate is the ceiling for the toll rate range, and it cannot be exceeded under any circumstances. The actual toll rates will be responsive to real-time traffic, so it is important to note that the MDTA's modeling work shows that the probability of reaching the maximum toll rate within a tolling segment is very small. The probability is the highest on the Northbound direction of Phase 1 South, north of the American Legion Bridge. Maximum toll rates are typically not used for HOT lane facilities and add a protection to customers. It is also important to note that motorists will continue to be able to use the free general-purpose lanes at any time.

#### C. Escalation

The minimum and maximum per mile toll rates, soft rate toll caps, minimum tolls, and unregistered video surcharge will be escalated from the 2021 rates (2021\$) shown in Table IV-1 using the escalation factors. These factors will be set by the MDTA Board and will be escalated annually on July 1.

For the toll rate ranges to work effectively (i.e., ensure an average speed of 45 mph or more), the toll rate ranges must increase over time. Based on supply and demand, the rate must be scaled because the HOT lane capacity is fixed at two lanes (supply); however, demand will change based on employment, per capita income, and population factors. Customers choose to use the HOT lanes based on their perceived relationship between the value of money and time saved. Value of money changes over time (i.e., a dollar today is likely worth more than a dollar in the future). Escalation factors allow the minimum toll rate, soft rate cap, and maximum toll rate to increase proportionally as the value of money changes over time The reason for this adjustment is to ensure the toll rates can keep up with demand and inflation and the HOT lanes can meet the purpose of providing customers who choose to pay a toll a safer, faster and more reliable driving experience.

#### 1. Minimum Toll Rate Escalation Factor

The minimum toll rate escalation factor determines the annual adjustment to the minimum per mile toll rates and minimum toll rates. The escalation is needed to cover any annual increases in the cost to collect the tolls. The traffic demand does not affect the minimum toll.

The minimum toll rate per mile and the minimum toll per trip will be escalated annually using one escalation factor: the consumer price index (CPI). The CPI will be the CPI-U (Washington Metro) for all items based on the CPI from January of that year, as designated by the United States Bureau of Labor Statistics under the code CUURS35ASA0.

The minimum toll rate in any given year is proposed to be calculated as follows:

#### *Rate<sub>x</sub>* = *Rate*<sub>2021</sub> \* *CPI<sub>x</sub>* / *CPI*<sub>2021</sub>

Where:

X = current yearRatex = minimum toll rate in year xRate2021 = minimum toll rate established in the 2021 toll setting $CPI_x$  = Washington Metro CPI in January of year x $CPI_{2021}$  = Washington Metro CPI in January 2021



#### 2. Maximum Toll Rate Escalation Factor

The maximum toll rate escalation factor determines the annual adjustment to the maximum per mile toll rates, and unregistered video surcharge. Three escalation factors will be used:

- 1.1% per year population and employment real growth rate,
- 1% per year per capita personal income real growth, and
- Annual CPI inflation from January of that year (the CPI-U [Washington Metro] for all items, designated by the United States Bureau of Labor Statistics under the code CUURS35ASA0).

Increases in employment, per capita income, and population will all affect demand for the fixed two-lane HOT lanes facility. These demand factors can be predicted with confidence based on historical data. Therefore, the maximum toll rate must change over time to account for the change in demand. Annual population/employment growth has averaged 1.1% and annual real per capita income growth has averaged 1%, therefore, collectively the growth rate is approximately 2.1%. Additionally, without adjusting for demand growth, the toll rates would not provide adequate pricing flexibility to manage the traffic demand and ensure the facility will operate at an average speed of at least 45 mph.

The maximum toll rate in any given year is proposed to be calculated as follows:

$$Rate_x = Rate_{2021} * (1 + 1.1\% + 1.0\%)^{(x-2021)} * CPI_x / CPI_{2021}$$

Where:

X = current year Rate<sub>x</sub> = maximum toll rate in year x Rate<sub>2021</sub> = maximum toll rate established in the 2021 toll setting  $CPI_x$  = Washington Metro CPI in January of year x  $CPI_{2021}$  = Washington Metro CPI in January 2021

This modeling approach for determining the maximum toll rate is highly accepted and expected from investors/lenders, which promotes marketability and reduces risk.

#### 3. Soft Rate Cap Escalation Factor

The soft rate cap will be escalated using the same methodology as the Maximum Toll Rate Escalation.



#### D. Anticipated Customer Experience

#### 1. Comparison of Tolls to Virginia

In Maryland, Phase 1 South: American Legion Bridge I-270 to I-370 (based on traffic and revenue models):

- Most common trip is 6 miles between GW Parkway to MD 187
- Total distance between GW Parkway and I-370 is about 12 miles
- Average trip length is 7 miles
- Weekday average tolls are \$4.42 Northbound per trip, \$3.44 Southbound per trip (2-axle transponder, 2021 model year in 2021 dollars)

In Virginia:

- Average toll rates for Virginia's managed lanes on I-495 and I-95 are \$5.40 and \$8.45 per trip, respectively
- On I-495, 85 percent of trips were less than \$12 and 82 percent of customers spend less than \$20 a month
- On the Virginia I-95 Express Lanes, 74 percent of customers spend less than \$20 a month

#### 2. Average Tolls

The following table provides the average toll rates predicted by the traffic and revenue models based on 2021 traffic volume and 2021 prices. These numbers are provided for illustrative purposes, and may be different in the future, as traffic volumes and average toll rates depend on many factors.

Direction	5 AM	6 AM	7 & 8 AM	9 AM	10 AM & 11 AM	12 PM & 1 PM	2 PM	3 PM	4 & 5 PM	6 PM	7 PM	8 PM	12 PM to 4 AM	Daily
Average Toll Pa	Average Toll Paid Per Mile (2021\$)													
Northbound	\$0.21	\$0.51	\$0.60	\$0.45	\$0.23	\$0.31	\$0.53	\$0.70	\$1.33	\$1.31	\$0.49	\$0.21	\$0.21	\$0.66
Southbound	\$0.24	\$0.52	\$0.78	\$0.77	\$0.33	\$0.31	\$0.29	\$0.45	\$0.69	\$0.51	\$0.21	\$0.21	\$0.21	\$0.50
Total	\$0.24	\$0.52	\$0.72	\$0.64	\$0.28	\$0.31	\$0.41	\$0.60	\$1.08	\$1.01	\$0.41	\$0.21	\$0.21	\$0.58
Average Toll Pa	Average Toll Paid (2021\$)													
Northbound	\$1.29	\$3.43	\$3.51	\$2.62	\$1.57	\$2.09	\$3.51	\$4.66	\$9.41	\$9.30	\$3.47	\$1.25	\$0.44	\$4.42
Southbound	\$2.13	\$3.95	\$5.36	\$5.20	\$2.41	\$2.11	\$1.77	\$2.77	\$4.53	\$3.35	\$1.50	\$0.94	\$0.74	\$3.44
Total	\$1.97	\$3.81	\$4.62	\$4.06	\$2.00	\$2.10	\$2.66	\$3.84	\$7.38	\$6.99	\$2.86	\$1.20	\$0.62	\$3.95
Average Trip L	ength (mil	es)												
Northbound	6.25	6.73	5.81	5.80	6.87	6.82	6.61	6.63	7.05	7.08	7.02	6.04	2.15	6.66
Southbound	8.76	7.62	6.87	6.79	7.33	6.84	6.19	6.20	6.57	6.63	7.09	4.54	3.60	6.89
Total	8.30	7.39	6.45	6.35	7.11	6.83	6.41	6.44	6.85	6.91	7.04	5.81	3.00	6.77

#### Table IV-6: Average Tolls



#### 3. Potential Trips

The image below shows example trip costs in toll segments along Phase 1 South: American Legion Bridge I-270 to I-370 in off-peak and peak traffic conditions heading *northbound*, originating just south of the American Legion Bridge, and exiting at either MD 190, MD 187, or I-370. The tables show examples of total trip tolls and per mile tolls by segment for off-peak conditions for the 10am and 11am hours northbound and peak hour/heavy congestion conditions during the 6PM hour northbound. For example, during peak hours or heavy congestion northbound, the total cost from the American Legion Bridge to MD 190 could be \$5.23 per trip, from the Bridge to MD 187 could be \$10.03 per trip, and from the Bridge to I-370 could be \$18.60 per trip. Using the example northbound toll rates, the graph at the bottom represents the total tolls motorists would pay traveling from Virginia to MD 190, MD 187 and I-370 at different times throughout the day.





The image below is similar to the previous image showing example trip costs in off-peak and peak traffic conditions heading *southbound*. The trips originate north of I-370 and exiting at Gude Drive, I-495 or into Virginia. In this example, during off-peak conditions heading southbound, the total cost for a trip from I-370 to Gude Drive could be \$0.65 per trip, from I-370 to I-495, it could be \$3.23 per trip, and from I-370 to Virginia, it could be \$4.66 per trip. Using the example southbound toll rates, the graph at the bottom represents the total tolls motorists would pay traveling from I-370 to Virginia, I-495 East and Gude Drive at different times throughout the day.





Here we show five examples of trips with potential trip tolls and potential trip time savings:

- A junior accounting associate living in Shady Grove is starting her new job in Tysons. She will take
  advantage of the buses that ride in the HOT lanes for free. She could save up to 10 minutes by
  using the MD HOT lanes. Trip: Southbound on I-370 and I-270 mainline at I-370 to I-495 mainline
  at GW Parkway. (Potential Trip Toll: Free)
- A veteran who lives in Falls Church must travel to Walter Reed Medical Center for needed treatment. He would save up to 21 minutes on his trip using the MD HOT lanes and up to 10 minutes in the free general-purpose lanes. Trip: Northbound from I-495 mainline at GW Parkway to I-495 East of MD 187. (Time of Day: 3:30PM; Potential Trip Toll: \$5.85)
- An NIH researcher must give a speech at a biotech start-up based in McLean. He would save up to 14 minutes on his trip using the MD HOT lanes and up to 10 minutes in the free general-purpose lanes. Trip: Southbound from I-495 East of MD 187 to I-495 mainline at GW Parkway. (Time of Day: 9:30AM; Potential Trip Toll: \$4.03)
- A plumber with a business in Tysons Corner is responding to an emergency service call at the National Cancer Institute in Shady Grove. He would save up to 10 minutes on his trip using the MD HOT lanes. Trip: Northbound from I-495 mainline at GW Parkway to I-370 and I-270 mainline at I-370. (Time of Day: 1:00PM; Potential Trip Toll: \$3.72)
- A family of four living in Vienna wants to cheer on their youngest child who has a soccer match at Gaithersburg High School. The family would save up to 10 minutes by using the MD HOT lanes. Trip: Northbound from I-495 mainline at GW Parkway to I-370 and I-270 mainline at I-370. (Time of Day: 7:00PM; Potential Trip Toll: Free)





#### Key Takeaways:

- The MDTA Board is voting on a proposal which includes toll rate ranges (minimum rate and maximum rates), soft rate caps within the toll rate ranges, escalation factors, and discounts.
- It is expected that the customer experience will be comparable to what is seen in Virginia on neighboring dynamically priced facilities.



# V. Communications Plan and Schedule

DATE	ACTIVITY
Thursday, May 20	Board meeting
	Post Board Book to MDTA Website
	Issue news release
	Elected official notification
	MDTA employee email
	Social Media posts
	Send out gov.delivery and e-blast notifications
	Post material to MDTA website / Virtual Information Room:
	https://mdta.maryland.gov/ALB270TollSetting
	Public comment period opens
	Place legal notice, comment link and form to the MDTA website
May 21- Mid-July	Place legal notices in local newspapers/MD Register
	Afro American
	• El Tiempo
	Enquirer Gazette
	Frederick News-Post
	Laurel Leader
	<ul> <li>Prince George's Post</li> </ul>
	Washington Hispanic
	Washington Post
	Run digital ads
	afro.com
	eltiempo.com
	fredericknewspost.com
	Laurel Leader
	thesentinel.com
	<ul> <li>washingtonhispanic.com</li> </ul>
	washingtonpost.com
	Additional news releases and posts to MDTA website and social media with
	hearing details
	Distribute flyers to Environment Justice communities
	Obtain Members' availability for hearings
Mid-July (dates to be	Public hearings:
announced)	One – Call-In Testimony Public Hearing
,	One – In-Person Testimony Public Hearing
May 20 – August 12	Collect and document comments
August 12	Comment period closes at 5 PM
August 26	Based on public input received, present recommendation on the proposal to
0	the Board Members by MDTA staff and to the public via the MDTA website
	and other public relations efforts
August 26 – October 14	Second public comment period on MDTA staff recommendation
	Comment period closes on October 14 at 5 PM
October 28	Final recommendation is presented for MDTA Board vote



### VI. Approval to Advertise Staff's Proposal to Begin the Toll Setting Process

The proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370 will consist of minimum toll rates, soft toll rate caps, and maximum toll rates for the HOT lanes. The toll rate ranges will be set to ensure the HOT lanes operate to established operational metrics and provide managed lane users with a faster and more reliable trip. The rates will also include annual escalation factors to ensure the toll rate ranges are adequate to cover the full term of the P3 Phase Developer Agreement (anticipated to be 50 years). The proposal also includes a free passage discount that will be granted along the Phase 1 South: American Legion Bridge I-270 to I-370 HOT lanes for HOV 3+, buses and motorcycles. Toll rates will be set dynamically, meaning they could change up to every five minutes based on traffic volumes in the HOT lanes to provide customers who choose to pay a toll a faster and more reliable trip. The actual toll rates will change based on real-time traffic at each tolling point. The following encompasses the full proposal to begin the toll setting process.

#### A. Minimum Toll Rates

The minimum toll rate is the lowest toll rate per mile that will be charged within any tolling segment for the HOT lanes or the lowest total toll a vehicle will pay regardless of how far they travel. The minimum toll rate is intended to cover toll capture, processing and collection costs.

#### B. Soft Rate Caps

The soft rate cap is the toll rate amount that can only be exceeded when at least one of the following thresholds are met within a given tolling segment during the preceding five-minute period: the average traffic volume exceeds 1,600 passenger car equivalent vehicles per hour per lane (PCEphpl) or the average speed in a tolling segment is below 50 mph. The soft rate cap will always be lower than the maximum toll rate and can be exceeded only temporarily to provide customers who choose to pay a toll, a faster and more reliable trip. The soft rate cap will only be exceeded until the throughput and speed performance targets are achieved, and then the toll rate will gradually return to the soft cap or below.

MDTA is proposing the soft rate cap as a protection for our customers. The purpose of the soft rate cap is to constrain the toll rate charged to customers when throughput or speed performance targets will not otherwise be achieved. This provides protection against high prices when traffic conditions do not justify higher rates. Although not standard practice in the tolling industry, the MDTA is choosing to be one of only two states in the United States to set a soft rate cap to constrain the toll rate as a protective measure for customers.

#### C. Maximum Toll Rates

The maximum toll rate is the highest per-mile toll rate that may be charged within any tolling segment for the HOT lanes. The actual per-mile rate paid by customers is responsive to real-time traffic. The maximum rates cannot be exceeded under any circumstance. The maximum rate will only be realized under conditions where the soft rate cap is exceeded, which would be during times of deteriorating performance. In extremely rare circumstances, when traffic demand is very high and customers are experiencing decreased speeds in a given tolling segment, the toll rate may reach the maximum toll rate.



The toll rate is determined on a segment-by-segment basis. The maximum toll rate is required for the most congested tolling segments and likely would not come into effect for many segments.

#### D. Escalation

The MDTA staff proposes the minimum and maximum per-mile toll rates, soft rate caps, minimum toll, and unregistered video surcharge escalate annually. The adjustments are necessary to ensure the toll rates will keep up with (1) the growing traffic demand for the HOT lanes, (2) annual inflation, and (3) the goal of providing a faster and more reliable trip for customers who choose to pay the toll. The minimum per-mile toll rate and minimum toll would be escalated based on inflation only.

#### E. Proposed Toll Rate Ranges

The proposed toll rate ranges are provided in cost per mile (\$/mile). Table IV-1 previously presented in this book provides the minimum and maximum toll rate ranges and soft rate caps within, for all vehicle classifications and all payment types: Electronic Toll Collection/*E-ZPass* (ETC), Pay-By-Plate (registered video), or Video Tolling (unregistered video). The vehicle classifications and payment methods and associated multipliers are consistent with existing MDTA facilities.

We are seeking the Board's approval to proceed with public hearings for the proposal noted above.



#### **VII. Attachments**

The following items are included as attachments to this MDTA Board book. All of the information will be posted to the MDTA website on the same day as the Board meeting, contingent on approval from the MDTA Board to move ahead with the process.

Attachment 1: Toll Rate Range Setting Process Virtual Boards

Attachment 2: Toll Rate Range Setting Process Virtual Boards Script (accompanies the boards)

Attachment 3: Soft Rate Cap Video and Script

Attachment 4: Vehicle Classifications



#### A. Attachment 1: Toll Rate Range Setting Process Virtual Boards





Phase 1 South Toll Rate Range Setting Process PUBLIC HEARINGS

Maryland Transportation Authority

American Legion Bridge I-270 to I-370

# WELCOME! Public Hearing Virtual Information Room

Overview

mdta.maryland.gov/ALB270TollSetting

Attachments




### Purpose of the public hearings for the Phase 1 South Toll Rate Range Setting Process

- The hearings will provide an opportunity for the public to comment on the Toll Rate Range Proposal for Phase 1 South: American Legion Bridge I-270 to I-370.
- Verbal testimony and written comments will be part of the official record reviewed by the MDTA Board and the MDTA Executive Director.
- The public comment period starts on May 20, 2021, and closes on August 12, 2021, at 5 p.m.
- Hearing materials should be reviewed online prior to attending a hearing; if you are unable to access the materials, email <u>mdtaeeo@mdta.maryland.gov</u> or call 410-537-6720.









Maryland Transportation Authority

American Legion Bridge I-270 to I-370

## When are the public hearings and how do I comment on the tolling proposal?

The MDTA is planning virtual and in-person public hearings to seek public testimony on the proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370. Registration to provide testimony at a public hearing will open once the public hearing dates are announced. There will be no formal presentation during the public hearings, and no responses to questions will be given. The public will be able to listen live to the hearings via telephone or by watching a livestream at mdta.maryland.gov/ALB270TollSetting.

Dates and details will be provided in future announcements for public hearings to be scheduled during the comment period.

Beginning May 20, 2021, public comment is being accepted, and all public hearing materials are available in the Virtual Information Room at <u>mdta.maryland.gov/ALB270TollSetting</u>. Written comments and call-in testimony through voicemail will be accepted for the official record through Thursday, August 12, 2021 at 5 p.m.:

- Submit an electronic comment form at <u>mdta.maryland.gov/ALB270TollSetting</u>;
- Download and email a completed comment form to <u>ALB270TollSetting@mdta.maryland.gov;</u>
- Print and mail a completed comment form to Phase 1 South: American Legion Bridge I-270 to I-370 Toll Rate Range Public Comment, Maryland Transportation Authority, 2310 Broening Highway, Baltimore, MD 21224; or
- Provide call-in testimony at 855-701-1977 and leave a single voicemail that is limited to three minutes.

ALL COMMENTS received, whether at the hearing or through other methods, will be given EQUAL CONSIDERATION.

If you are unable to access the hearing materials online, or if you require special accommodations under the Americans with Disabilities Act or require language translation services (free of charge), please contact the MDTA's Title VI Officer at <u>mdtaeeo@mdta.maryland.gov</u> or at 410-537-6720.

#### Overview





### What is Phase 1 South of the Phase 1: American Legion Bridge I-270 to I-70 Relief Plan?

- The Phase 1: American Legion Bridge I-270 to I-70 Relief Plan is a historic effort to reduce congestion for millions of travelers in the National Capital Region.
- The Phase 1 South Toll Rate Range Setting Process is focusing on the American Legion Bridge up to I-270, and north along I-270 to I-370 to address the regionally significant congestion bottleneck.







### What is being tolled within Phase 1 South?

The Maryland Department of Transportation (MDOT) State Highway Administration (SHA) has identified Alternative 9: Phase 1 South as the Recommended Preferred Alternative for the Managed Lanes Study (MLS)\*.

Alternative 9: Phase 1 South adds two high-occupancy toll (HOT) lanes in each direction across the New American Legion Bridge to I-270. Along I-270 to I-370, it converts one existing high occupancy vehicle (HOV) lane to a HOT lane and adds one HOT lane in each direction.



\*The MLS is following the National Environmental Policy Act (NEPA) process and will result in a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). The NEPA process is running on a separate independent track from the Phase 1: American Legion Bridge I-270 to I-70 Relief Plan and the Phase 1 South Toll Rate Range Setting Process. Tolls will not be implemented if the FEIS and ROD do not include a managed lanes build alternative.

#### Overview





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### How do HOT lanes benefit everyone?

- HOT lanes operate at 45 mph or higher while average speeds in the general purpose lanes also improve as drivers choosing HOT lanes help to reduce the number of vehicles in the general purpose lanes.
- Improvements in speed and travel time encourage use of interstate and reduce cut-through traffic on local roadways.
- The free passage discount will be granted along the Phase 1 South HOT lanes for HOV 3+, buses and motorcycles.
- By granting free passage to HOV 3+, buses and motorcycles, these new lanes will: give people a more reliable trip, provide more equitable opportunities with the option to travel free, reduce dependence on single-occupancy vehicles (SOV) and

#### What are HOT Lanes?

Dedicated managed lanes within highway right of way that SOV motorists may use by paying a variably priced toll. HOV 3+, buses and motorcycles may use the HOT lanes for free.

create new opportunities for ride sharing supporting regional, planning efforts to expand HOT/HOV usage.

- Operationally compatible with Express/HOT lanes in VA.
- Allows for increased speeds for buses in HOT lanes by providing free-flow traffic and assuring a reliable trip.
- Provides HOT lane connections to existing transit service on local roads that serve offices, shops, and entertainment centers.
- Provides connections that support existing and future transit service to underserved communities and businesses.

#### Overview







Maryland - Transportation Authority

American Legion Bridge I-270 to I-370

### How are the MDTA, MDOT SHA and the Developer partnering in Phase 1 South: American Legion Bridge I-270 to I-370?



The MDTA is the only State entity with the authority to set, revise, and fix tolls for State transportation facilities; responsible for setting toll rate ranges and conducting toll collection operations for the Phase 1 South: American Legion Bridge I-270 to I-370.



- MDOT SHA is the State entity responsible for rights and obligations under the Phase 1 South: American Legion Bridge I-270 to I-370 related to program development, solicitation(s) and long-term program management.
- The Phase 1 Developer will conduct predevelopment work with the MDTA and MDOT SHA to advance the preliminary design to further avoid and minimize impacts to environmental resources, communities, properties, utilities, and other features by working with the counties, municipalities, state and federal agencies, property owners, utility providers and citizens.

The Phase 1 South Section Developer will design and implement the toll system.







Maryland Transportation Authority

### What are the responsibilities of the MDTA, MDOT SHA and Phase 1 South Section Developer?

#### **MDTA**

- Establish toll rate ranges and set soft rate cap.
- Maintain tolling customer accounts and interactions.
- Transfer toll revenue to Phase 1 South Section Developer.
- Issue bonds.

- Utilize updated Customer Service Center and backoffice systems.
- Establish Operating Reserve.
- Participate in the developer selection process.
- Administer Toll Collection.

#### **MDOT SHA**

- Administer and oversee P3 Agreements.
- On-going stakeholder engagement and communications, including Virginia Bi-State Agreement, regional transit benefits, utility and third-party coordination.

#### Coordinate right of way.

- Obtain certain government approvals, including completion of the Final Environmental Impact Statement (FEIS)/Record of Decision (ROD).
- Operate and maintain the new general purpose lanes.

#### Phase 1 South Section Developer

- Set variable tolls within approved toll rate range.
- Finance, construct, operate, for t and maintain HOT lanes.
- Create toll transactions/trips that are then sent to MDTA for toll collection.

mdta.maryland.gov/ALB270TollSetting

**Roles/Responsibilities** 





### What is the responsibility of the MDTA Board?

Following a transparent public process outlined in Maryland Annotated Code, Transportation Article §4-312 and COMAR 11.07.05 to ensure multiple opportunities for public comment and feedback, the MDTA Board will vote on the final toll rate ranges to be established for Phase I South.

### Who is the MDTA Board?

- The MDTA is governed by eight citizen Board Members appointed by the Governor, and confirmed by the Senate, and chaired by the Secretary of Transportation.
  - Chairman, Gregory Slater
  - Dontae Carroll
  - William H. Cox, Jr.
  - William C. Ensor III
  - W. Lee Gaines, Jr.

- Mario J. Gangemi, P.E.
- John F. von Paris
- Cynthia D. Penny-Ardinger
- Jeffrey S. Rosen
- James F. Ports, Jr. is the Executive Director of the MDTA and oversees daily operations and is not a voting Member of the MDTA Board.









### What is the MDTA Board voting on?

- Following the hearings and public comment periods, the MDTA Board will consider all comments received and then vote on the final MDTA staff recommendation for the proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370 including:
  - Minimum toll and maximum toll rate ranges.
  - Process for annual toll escalation.
  - Toll discounts for certain types of vehicles.
- Per COMAR 11.07.05, the Executive Director may set or adjust the soft rate cap, operational metrics, or toll zones consistent with the toll rate ranges established by the MDTA Board.

### What is the MDTA asking the public to comment on?

The MDTA is seeking public comment on the minimum and maximum toll rate ranges and the soft rate cap within, process for annual toll escalation, and toll discounts.

All public comments received will be summarized, analyzed and presented to the MDTA Board as part of the final toll rate range recommendation prior to the Board vote.









mdta.maryland.gov/ALB270TollSetting

American Legion Bridge I-270 to I-370

### How are the proposed toll rate ranges for Phase 1 South different than tolls on the existing MDTA toll facilities?

- The MDTA facilities are comprised of fixed price facilities and variably priced facilities that use time of day pricing, and focus on revenue generation to allow the MDTA to construct, manage, operate, and improve the State's toll facilities.
  - Fixed price facilities vehicles are subject to a set toll rate regardless of the time of day or congestion level. This applies to most MDTA facilities.
  - Variably priced facilities vehicles are subject to a set toll on some or all lanes that can vary based on the time of day. These include the Intercounty Connector (ICC) and I-95 Express Toll Lanes.
- Phase 1 South would be a variably priced facility that uses dynamic pricing, which is new to Maryland, where vehicles are subject to a dynamic toll on the HOT lanes that vary by tolling segment and congestion level.
  - Dynamic pricing shifts the focus from revenue generation to relieving congestion by maintaining certain traffic speeds (45 mph or greater in the HOT lanes) and reliability.
  - Generally speaking, toll rates are set within established toll rate ranges to maintain free-flowing traffic and
    use pricing factors to influence the traffic flow when lanes become more congested, the toll increases,
    and when the lanes become less congested, the toll decreases.
- The MDTA's existing toll facilities will not be impacted by the Phase 1 South Toll Rate Range Setting Process.

Tolling 101





### How will dynamic pricing work on the HOT lanes?

- Toll rates will adjust as frequently as every 5 minutes, if needed, to maintain a free-flowing level of traffic (45 mph or higher).
- Toll rates will generally increase when the HOT lanes are relatively full and decrease when the HOT lanes are less full.
- Tolls will be collected electronically at highway speeds, using overhead gantries, with no toll plazas or toll booths (cashless tolling).
- Current toll rates for common destinations will be displayed on electronic roadway signs so drivers will know their toll prior to entering the HOT lanes.
- Overhead tolling gantries will be placed within each tolling segment along Phase 1 South by the Phase 1 South Section Developer (locations to be determined).
- Toll rates for each tolling segment will be set in the future by the Phase 1 South Section Developer within MDTA Board-approved toll rate ranges.

 Image: South
 Image: South

 Image: South
 Image: South

mdta.maryland.gov/ALB270TollSetting

Tolling 101





\*Note: Toll rates shown here are for illustrative purposes only and will be set in the future by the Phase 1 Section Developer within established toll rate ranges and are subject to change based on tolling segment and congestion level.





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### How will tolls be collected?

Tolls will be collected electronically via E-ZPass\*, Pay-By-Plate or Video Tolling, as motorists keep moving at highway speeds beneath overhead gantries.

#### BEST 🗙 🛧 🤉

#### EZPass Account

- E-ZPass customers pay the lowest tolls on every trip!
- New customers can use cash, check, money order or credit card to open an *E-ZPass* account at various locations.
- E-ZPass transponders are free.
- There's no monthly fee for Maryland residents.

#### BETTER 🗙 🖈

#### Pay-By-Plate (registered video)

- Users without an *E-ZPass* may register their license plate and a credit card for payment.
- When registered users drive under the gantries, a video image of the vehicle's license plate will be taken and the registered credit card will be charged.
- No prepaid balance is required.
- Toll rate is 25% higher than base rate (E-ZPass account).

#### GOOD

#### Video Tolling (unregistered video)

- When users without *E-ZPass* or Pay-By-Plate accounts drive under the tolling gantries, a video image of the vehicle's license plate will be taken.
- A Notice of Toll Due will be sent to the registered owner of the vehicle for the Video Toll amount due.
- Toll rate is 50% higher than base rate (*E-ZPass* account).





### Toll rate range proposal for Phase 1 South: American Legion Bridge I-270 to I-370

- Consists of minimum and maximum toll rate ranges, and soft rate cap within, for the HOT lanes.
- Includes annual escalation factors to ensure the toll rate ranges, soft rate cap within, minimum tolls and unregistered video surcharge are adequate to cover the full term of the Phase 1 South: American Legion Bridge I-270 to I-370 agreements (anticipated to be 50 years).
- Applies only to travel in the HOT lanes; the existing general purpose lanes will remain free and not be tolled.
- Free passage discount will be granted along the Phase 1 South HOT lanes for HOV 3+, buses and motorcycles.
- The difference between minimum and maximum toll rates create toll rate ranges, which vary by vehicle classification and payment type. Toll rates will be constrained by soft rate caps within each toll rate range and can only be exceeded in specific circumstances.

**Toll Rate Range Proposal** 





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### What does the toll rate range proposal include?

#### Minimum Toll Rate:

- Lowest toll rate per mile that may be charged within any tolling segment for the HOT lanes or the lowest total toll a customer will pay regardless of how far they travel (not per mile).
- Ensures short trips on the facility are charged a flat toll to cover toll collection costs.

#### Soft Rate Cap:

- Per-mile toll rate that can only be exceeded when at least one of the following thresholds are met within a given tolling segment during the preceding 5-minute period:
  - Traffic volume exceeds 1,600 passenger car equivalent vehicles per hour per lane.
- Average speed is below 50 mph.
- Customers can choose to pay this toll for a faster, more reliable trip when traffic conditions meet the thresholds.
- The soft rate cap protects customers from price gouging when traffic conditions do not justify higher rates.

#### **Maximum Toll Rate:**

- Highest toll rate per mile that may be charged within any tolling segment for the HOT lanes.
- Under no circumstances will the maximum toll rates be exceeded.
- In extremely rare circumstances, when travel demand is very high within a given tolling segment, the toll rate may reach the maximum toll rate.





### **How will the Minimum Toll Work?**

The minimum toll rate is the lowest toll rate per mile that may be charged within any tolling segment for the HOT lanes *or* the lowest total toll a customer will pay regardless of how far they travel (not per mile).

An example scenario:

- The toll rate is set at its lowest rate (very low congestion and free flowing traffic).
- Vehicle 1 (2-axle with E-ZPass\*) enters the toll facility and travels 3 miles.
- Vehicle 2 (2-axle with E-ZPass) enters the toll facility and travels 1 mile.

Vehic	le 1 travels 3 miles from Cross Road A to Cross Roa	ac = [\$0.20	)/mile x 1 mile)	+ [\$0.20/mile	x 2 miles) = <mark>5</mark>	0.60 total
Vehic	le 2 travels 1 mile from Cross Road A to Cross Road	8 = (\$0.2	0/milex 1 mile)	= \$0.20 = <mark>\$0.</mark>	SO (minimum	toll per trip)
	Since \$0.20 is less than the minimum toll of \$0.50	per trip, Vehi	de 2 would be ch	arged the minima	um toll of \$0.501	for this trip.



v	ehicle type	Payment type	Minimum trip toll by payment type
All	vehicle types	E:ZPass	\$0.50
All	vehicle types	Pay-By-Plate (PBP / registered video)	\$0.63
All	vehicle types	Video Tolling (unregistered video)	\$0.75

**Toll Rate Range Proposal** 







### What is the Soft Rate Cap?

- The soft rate cap is a set toll rate amount within an approved toll rate range that may be temporarily exceeded when one of the following vehicle throughput or speed performance thresholds are met for a specific tolling segment:
  - Average traffic volume measured in a segment during the preceding five-minute period exceeds 1,600 passenger car equivalent vehicles per hour per lane (PCEphpl); OR
  - The average speed in a segment during the preceding five-minute period is below 50 mph.
- The soft rate cap will always be lower than the maximum toll rate, and can be exceeded only temporarily to provide customers who choose to pay a toll, a faster and more reliable trip.

Although not standard practice in the tolling industry, the MDTA is choosing to be one of only two states in the United States to set a soft rate cap to constrain the toll rate as a protective measure for customers.







Maryland Transportation Authority

speed threshold of 50 our is used here with the a. This is higher than the r hour overall minimum ed for the HOT lanes. The our buffer is included

n the previous 5-minute ake toll rate changes in ninute period.

American Legion Bridge I-270 to I-370

### How will the Soft Rate Cap Work?

If the throughput or speed performance thresholds are met, the per-mile toll rates charged for a segment may temporarily exceed the soft rate cap. Vehicles would temporarily pay a toll rate for that segment that is greater than the soft rate cap.

In these instances, the toll rate cap (either the soft rate cap or previously revised toll rate cap) would be multiplied by a demand factor to calculate a new, temporary revised toll rate cap for that segment, as described below:

Revised Toll Rate Cap Toll Rate Cap Demand Factor х =

Average Traffic Volume (PCEphpl)	Average Speed (mph)	Demand Factor			
Greater than or equal to 1,600 and less than 1,650	Less than 50	1.05			
Greater than or equal to 1,650 and less than 1,700	Less than 50	1.10			
Greater than or equal to 1,700 and less than 1,750	Less than 50	1.15			
Greater than or equal to 1,750 and less than 1,800	Less than 50	1.20			
Greater than or equal to 1,800	Less than 50	1.25			

Note: With speed, the developer can apply a demand factor ranging from 1.05 to 1.25 for speeds below 50 miles per hout. More flexibility is allowed in the speed demand factors compared to the traffic

demand factors shown to allow for a better pricing response during unique events.

#### How will the toll rate return to the soft rate cap after it is exceeded?

- The toll rate will gradually return to the soft rate cap after the throughput and speed performance thresholds are not met (average traffic volume in a segment drops below 1,600 PCEphpl or average speed is at or above 50 mph).
- The revised toll rate cap will be calculated by multiplying the prior revised toll rate cap by a demand factor of 0.90, which will decrease the revised toll rate until the revised toll rate cap equals the soft rate cap.

Watch a video explaining how the Soft Rate Cap works here: mdta.maryland.gov/ALB270TollSetting

**Toll Rate Range Proposal** 





### How does the Soft Rate Cap Benefit Customers?



Estimated Weekday Toll Rate Frequency:

- This example shows how the soft rate cap could lower toll rates for customers.
- The example is for a northbound HOT Lanes segment between River Road on I-495 and Westlake Terrace on the I-270 West Spur for 6 o'clock PM to 6:59 PM. The red area in the graph represents estimated weekday toll rates without a soft rate cap in place. The blue area represents estimated weekday toll rates with a soft rate cap in place.
- Without the soft rate cap, shown in red, about 2/3 of weekdays would have rates above \$1.50 per mile and 1/3 of weekdays with rates at or below \$1.50.
- With the soft rate cap, shown in blue, about 2/3 of weekdays would have rates at or below \$1.50 per mile and 1/3 of weekdays with rates above \$1.50.
- The frequency of the per mile rate at or below \$1.50 doubles with the soft rate cap because the traffic metrics tied to the cap constrain the per mile rate, providing toll rate protection to customers.
- Without the soft rate cap, the toll rate would rise into the solid red area above the \$1.50 soft rate cap.





### How often will the Soft Rate Cap be Exceeded?

Segment	5:00AM to 6:59AM		7:00AM to 8:59AM		9:00AM to 9:59AM		10:00AM to 2:59PM		3:00PM to 3:59PM		A 4:00PM to 5:59PM		6:00PM to 6:59PM		7.00PM to 7.59PM		8:00PM to 11:59PM		12:00AM to 5:59AM	
	51.50 Exceeded Due to Traffe Conditions	S1.50 Reached But Nat Allowed To Decord	51.50 December Caratilities Conditions	SLND Resolved Bat Not Allowed With cod	SLSS Exceeded Due to Turk Conditions	11.50 Reached Bat Net Allowed Witneed	11.50 Exceeded Due to Turfle Conditions	11.50 Reached hat Nat Abrased to Second	11.50 Exceeded Over to Touris Canaditions	11.50 Reached Bat Nat Advand Witnesd	51.58 Exceeded Over to York: Conditions	11.58 Reached But Nat Alcowed Withcoved	S1.50 Exceeded Due to Tudic Conditions	S1.50 Repched But Net Allowed No Decord	51.50 December Dar to Traffic Conditions	SLSD Reached But Net Allowed Withcord	S1.50 Exceeded Due to Turke Conditions	S1.50 Reached Bat Not Allowed to Deced	11.50 Encoded Our to Turfle Conditions	11.50 Exceeded Due to Turfic Conditions
George Washington Parkway to River Road (ALB IL)	1.		ы	60	1	1.		•	2	2	168	80	155	74	4	4			1	
River Road to George Washington Parkway (ALB OL)	1		1	1.1	1	1.	1		5	6	32	22	5	6		1.0	1.		$\sim$	
River Road to 1-495 (East of 1-270 West Spur) (R.)	1	1.1	10	4	10	1.0	1.0	1.0	1	1.0	- 1	29	34	186	1	7	1.0	1.0	10	
1-495 (East of 1-270 West Spur) to River Road (OL)	$\sim 10^{-1}$	-	1.	1.0	1.	1.0	1.		1	4	- 0	51	1.	7	1.	$\sim 10^{-1}$	1.	1.0	$\sim 10^{-1}$	-
River Road to Westfake Tenace (MD 1-495 IL / 1-270 W Spur NB)	1				1.						156	74	85	85	1	1.1	+		1	
Westlake Terrace to River Road (MD 1-495 OL /1-270 W Spur SB)		-	-	-	1	1.1	-	-		•	\$	14	1	4	-		1	-		-
I-270 East Spur to I-270 @ East Spur West Spur Interchange (NB)	1	-	-	1.5	1	1		-					-	3		10	1.		1	
1-270 () East Spun/West Spur Interchange to 1-270 East Spur (SB)	-			1.		2										1.0		1.0	1.0	
Westlake Tensece to Wootton Parkway (8-220 N8)			1	1.1							34	48	29	47	1	11			1	
Wootton Parkway to Westlake Terrace 8-270 583	- × .			1.1	1	3		•							1	1.0			10	•
Wootton Parkway to Gude Drive (I-270 NB)	1		1	1.0	1	1	1		1	1	39	27	40	27	1	1.0	1.1	1	10	-
Gude Drive to Wootton Parkway (8-270 58)			4	2	- 6	- 4	1			1.0	÷ -	1.0	1.0	1.1	1.	(1,2)		1.0	1.	
Gude Drive to 1-370 (I-270 NB)											9	29	72	30			-			
1-370 to Gude Drive (1-270 S8)				4		4						-	-				-			

This table shows the estimated number of non-holiday weekdays, by assumed segments, that the soft rate cap could be reached, but not allowed to increase; or reached and to be exceeded. Red columns indicate estimated number of weekdays the soft rate cap could be exceed and green columns indicate the estimated number of weekdays the per-mile rate is limited to \$1.50 to protect customers. The soft rate cap is generally reached and/or exceeded between 4-7PM, primarily on the inner loop. The highest occurrences are at or near the American Legion Bridge.

**Toll Rate Range Proposal** 





### How often will the Soft Rate Cap be Exceeded?

Segment	5:00AM to 6:59AM		7:00AM to 8:59AM		9:00AM to 9:59AM		10:00AM to 2:59PM		3:00PM to 3:59PM		1.4:00PM to 5:59PM		1 6:00PM to 6:59PM		7:00PM to 7:59PM		8:00PM to 11:59PM		12:00AM to 5:59AM	
	51.50 December Over to Traffic Conditions	S1.50 Reached Bat Net Allowed To Decord	51.50 December Caratilities Conditions	SLND Resolved Bat Not Allowed With cod	SLSS Exceeded Due to Turk Conditions	11.50 Reached Bat Net Allowed Witneed	11.50 Encoded Due to Turfle Conditions	11.50 Reached hat Nat Abrased to Second	11.50 Exceeded Ducto Turks Conditions	11.50 Reached Bat Nat Advand Witnesd	51.58 Exceeded Over to York: Conditions	11.50 Reached Bet Not Alcound Urbased	S1.50 Exceeded Due to Tudic Conditions	S1.50 Repched But Net Allowed To Decord	51.55 December Daris Tark Conditions	SLND Reached Bat Net Allowed to Decord	SLSO Exceeded Due to Tarfic Canditions	11.50 Reached Bat Not Allowed to Decord	11.50 Exceeded Due to Turfle Canditions	11.50 Eccended Due to Turfic Conditions
George Washington Parkway to River Road (ALB IL)	1.		12%	24%	18	15			15	1%	67%	32%	61%	29%	18	2%	1.			
River Road to George Washington Parkway (ALB OL)	1		1	1.1	18	16	1		26	2%	13%	9%	2%	2%	1	10			$\sim$	
River Road to 1-495 (East of 1-270 West Spur) (R.)	1	1	10	2%	10	1.0	10	1.0	1	1.1	- 15	12%	14%	74%	18	3%	10	1.0	10	
1-495 (East of 1-270 West Spur) to River Road (OL)	1		1.	14	1.	1.0	$\sim$		16	26	5%	20%	196	2%	1.	1.0	18	1.0	$\sim 10^{-1}$	-
River Road to Westlake Tenace (MD 1-495 IL / 1-270 W Spur NB)			1.1	1	1.1		1.				62%	29%	34%	34%	1	1.1				
Westlake Terrace to River Road (MD 1-495 OL /1-270 W Spur SB)			-	-	1%	18	-	-			2%	6%	196	2%	-			-	-	
I-270 East Spur to I-270 @ East Spur West Spur Interchange (NB)				1.	1	1	- 5	-					-	1%	-	$\sim 10^{-1}$	1	-	1	
1-270 () East Spun/West Spur Interchange to 1-270 East Spur (SB)				1.		18									-		1.0		1	
Westlake Tensece to Wootton Parkway (8-220 N8)			1	1.1							14%	19%	12%	19%	1	1.1				
Wootton Parkway to Westlake Terrace 8-270 583	10		1	1.0	18	16	1	•				1.1			10	14	÷.,		$\sim$	•
Wootton Parkway to Gude Drive (5-270 NB)	10	1.0	1.	1.0	1.0	1.0	10		1	1.1	15%	115	20%	115	1.0	18	10	1.1	10	
Gude Drive to Wootton Parkway (8-270 SB)	$\sim$		28	1%	28	28	$\sim 10^{-1}$			1.1	1.1		1.0	. •	1	$\sim 10^{-1}$	$\sim 10^{-1}$	1.0	$\sim 10^{-1}$	
Gude Drive to 1-370 (I-270 NB)	•										21%	12%	29%	12%	+		- 41			
1-370 to Gude Drive (1-270 S8)			35	2%	2%	2%					-		-		1.1				-	-

As an example, from River Road to I-495 (inner loop), East of the I-270 West Spur – it is estimated the soft rate cap would be reached but not allowed to exceed 74% of weekdays and the soft rate cap would be exceeded 14% of weekdays.





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### **How does the Maximum Toll Rate Work?**

The maximum toll rate is the ceiling for the toll rate range, and it **cannot** be exceeded under any circumstances. Customers could choose to pay this higher toll to avoid unusually heavy traffic congestion due to events such as a severe crash or extreme weather.

- The maximum toll rate would not be applied to the entire length of the Phase 1 South but at the tolling segment(s) experiencing unusually high traffic congestion.
- The probability of reaching the maximum toll rate within a tolling segment is very small.

#### **Maximum Toll Rate:**

- The highest rate a vehicle could ever pay per mile
- Not typically used for HOT facilities
- Added protection to toll customers
- The probability is highest on the Northbound portion of Phase 1 South, north of the American Legion Bridge.





### **Vehicle Classifications**

The proposed toll rate ranges and soft rate caps within, vary based on vehicle classification.



**Proposed Toll Rate Range** 





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

#### Proposed Toll Rate Ranges, Soft Rate Caps, Discounts, and Free Passage for Vehicle Classifications by Payment Type

	GENERAL	HOT LANES									
VEHICLE			Proposed 1	Toll Rate Ranges (2	021\$/mile) <sup>3</sup>	HOV 3+					
CLASSIFICATIONS	LANES	Payment Type	Minimum Toll Rate Range <sup>2</sup>	Soft Rate Cap	Maximum Toll Rate Range	Vanpools Carpools	Buses Motorcycles				
Passenger Vehicle (2-axle)			\$ 0.20	\$ 1.50	\$ 3.76						
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00						
3-axle Light			\$ 0.30	\$ 2.25	\$ 5.64						
3-axle Heavy	free.	Electronic Toll	\$ 0.40	\$ 3.00	\$ 7.53	F	Free				
4-axle Light	Free	Collection (ETC)	\$ 0.51	\$ 3.75	\$ 9.41	Free	Free				
4-axle Heavy		E.Theat	\$ 0.61	\$ 4.50	\$ 11.29						
5-axle		EZPass	\$ 1.21	\$ 9.00	\$ 22.58						
6+-axle			\$ 1.52	\$ 11.25	\$ 28.22						
Passenger Vehicle (2-axle)			\$ 0.25	\$ 1.88	\$ 4.70						
Motorcycle		Pay-By-Plate (Registered Video) (1.25x ETC)	\$ 0.00	\$ 0.00	\$ 0.00						
3-axle Light			\$ 0.38	\$ 2.81	\$ 7.05						
3-axle Heavy	Eroo		\$ 0.50	\$ 3.75	\$ 9.41	Free	Free				
4-axle Light	rice		\$ 0.64	\$ 4.69	\$ 11.76						
4-axle Heavy			\$ 0.76	\$ 5.63	\$ 14.11						
5-axle			\$ 1.51	\$ 11.25	\$ 28.23						
6+-axle			\$ 1.90	\$ 14.06	\$ 35.28						
Passenger Vehicle (2-axle)			\$ 0.30	\$ 2.25	\$ 5.64						
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00						
3-axle Light		Video Tollina <sup>1,4</sup>	\$ 0.46	\$ 3.38	\$ 8.47						
3-axle Heavy	Eroo	(Uprepictored Video)	\$ 0.61	\$ 4.50	\$ 11.29	Eroo	Fron				
4-axle Light	nee	(Unregistered Video)	\$ 0.76	\$ 5.63	\$ 14.11	rice	rice				
4-axle Heavy		(1.5x ETC)	\$ 0.91	\$ 6.75	\$ 16.93						
5-axle			\$ 1.82	\$ 13.50	\$ 33.86						
6+-axle			\$ 2.28	\$ 16.88	\$ 42.33						

"Total unregistered eides surcharge (difference between ETC toff and unregistered eides toff amount) cannot exceed \$15 per trip. The surcharge is subject to escalation as defined below.

The minimum trip toO jost per mile) by payment type for all which types would be \$6.50 for costamen using I-2hear's \$6.61 for costamen using Pay-By Plate (Papitored Video), and \$6.75 for costamen using Video Tolling (Linvapitored Video).

Tocolation formulas can be found at endnamory/and gate/ALI2212/alSetting-

Nummers can receive an early payment discount of 15% off their tail up to 55 for unregiment rideo trips if poil before notice is maled.

Toll Rate Range Proposal





### Vehicles that travel for free in the HOT Lanes



**Toll Rate Range Proposal** 









### What is toll escalation?

For the toll rates to effectively manage demand and ensure reliability for users of the HOT lanes into the future, the maximum per mile rates, soft rate caps, and unregistered video surcharge will escalate annually to account for inflation, population employment, and income growth. The minimum per mile rates and the minimum tolls are both subject to escalation for inflation only.

- The escalation factors account for and keep pace with the following:
  - Inflation: causes the value of money to decrease over time.
  - Growth in demand: for use of the HOT lanes over time.
- The escalation factors are set based on the following:
  - Inflation: Washington Metro regional consumer price index all urban consumers (CPI -U)\* values that consider the relative cost of goods and services.
  - Growth in demand: captures changes in population, employment, and incomes above inflation.
    - 1.1% per annum population and employment real growth rate.
    - 1.0% per annum per capita personal income real growth rate.

\*Designated by the United States Bureau of Labor Statistics under the code CUURS35A5A0.

Toll Rate Range Proposal









**Toll Rate Examples** 





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### **Anticipated Customer Experiences**

In Maryland, Phase 1 South ALB I-270 to I-370:

- Most common trip is 6 miles between GW Parkway and MD 187
- Total distance between GW Parkway and I-370 is about 12 miles
- Average trip length is 7 miles
- Weekday average tolls are \$4.42 Northbound per trip, \$3.44 Southbound per trip (2-axle transponder, 2021 model year in 2021 dollars)

In Virginia:

- Average tolls for Virginia's managed lanes on I-495 and I-95 are \$5.40 and \$8.45 per trip, respectively
- On I-495, 87% of trips were less than \$12 and 85% of customers spend less than \$20 a month
- On the Virginia I-95 Express Lanes, 74% of customers spend less than \$20 a month

Direction	5 AM	6 AM	7 & 8 AM	9 AM	10 AM & 11 AM	12 PM & 1 PM	2 PM	3 PM	4 & 5 PM	6 PM	7 PM	8 PM	12 PM to 4 AM	Daily
Average Toll Paid Per Mile (2021\$)														
Northbound	\$0.21	\$0.51	\$0.60	\$0.45	\$0.23	\$0.31	\$0.53	\$0.70	\$1.33	\$1.31	\$0.49	\$0.21	\$0.21	\$0.66
Southbound	\$0.24	\$0.52	\$0.78	\$0.77	\$0.33	\$0.31	\$0.29	\$0.45	\$0.69	\$0.51	\$0.21	\$0.21	\$0.21	\$0.50
Total	\$0.24	\$0.52	\$0.72	\$0.64	\$0.28	\$0.31	\$0.41	\$0.60	\$1.08	\$1.01	\$0.41	\$0.21	\$0.21	\$0.58
Average Toll Paid (2021\$)														
Northbound	\$1.29	\$3.43	\$3.51	\$2.62	\$1.57	\$2.09	\$3.51	\$4.66	\$9.41	\$9.30	\$3.47	\$1.25	\$0.44	\$4.42
Southbound	\$2.13	\$3.95	\$5.36	\$5.20	\$2.41	\$2.11	\$1.77	\$2.77	\$4.53	\$3.35	\$1.50	\$0.94	\$0.74	\$3.44
Total	\$1.97	\$3.81	\$4.62	\$4.06	\$2.00	\$2.10	\$2.66	\$3.84	\$7.38	\$6.99	\$2.86	\$1.20	\$0.62	\$3.95
Average Trip L	Average Trip Length (miles)													
Northbound	6.25	6.73	5.81	5.80	6.87	6.82	6.61	6.63	7.05	7.08	7.02	6.04	2.15	6.66
Southbound	8.76	7.62	6.87	6.79	7.33	6.84	6.19	6.20	6.57	6.63	7.09	4.54	3.60	6.89
Total	8.30	7.39	6.45	6.35	7.11	6.83	6.41	6.44	6.85	6.91	7.04	5.81	3.00	6.77

Toll rates are for illustrative purposes only and are based on 2021 project traffic and revenue models. Actual toll rates will be set in the future by the Phase 1 South Section Developer within established toll rate ranges and are subject to change based on tolling segment and congestion level experienced within each tolling segment. Toll rates used in this illustration assume a 2 ade vehicle with E-2/tox. Free passage discount will be granted along the Phase 1 South HOT lanes for HOV 3+, buses and motorcycles.

**Toll Rate Examples** 









Toil rates and time savings are for illustrative purposes only and are based on 2021 project traffic and revenue models. Actual toil rates will be set in the future by the Phase 1 South Section Developer within established toil rate ranges and are subject to change based on toiling segment and congestion level experienced within each toiling segment. Toil rates used in this illustration assume a 2-axie which with E-2has. Free passage discount will be granted along the Phase 1 South HOT lanes for HOV 3+, buses and motorcycles.

**Toll Rate Examples** 





\* NOTE: The MDTA Board Meetings are open meetings conducted via livestreaming. The public is welcomed to watch the meetings at <u>mdta.maryland.gov/Meeting</u>. Schedules/MDTA\_Board\_Meeting\_Schedule, <u>html</u>. Pre-register in advance to comment on an agenda item. Instructions for registration are available at the link above.

#### Next Steps





Maryland Transportation Authority

American Legion Bridge I-270 to I-370

### **Title VI Questionnaire**

#### What is Title VI?

Title VI, 42 U.S.C.,\* Section 2000d et seq., was enacted as part of the Civil Rights Act of 1964. Title VI-related statutes and regulations provide 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:

#### **Title VI Officer**

Division of Civil Rights and Fair Practices Maryland Transportation Authority

2310 Broening Highway Baltimore, MD 21224 410-537-6720

mdtaeeo@mdta.maryland.gov

United States Code

#### 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 on 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 toll rate range setting process for Phase 1 South.





## **Thank you for your participation!**

### The MDTA is committed to keeping the public informed about the Phase 1 South Toll Rate Range Setting Process.

# Stay up to date by visiting <u>mdta.maryland.gov/ALB270TollSetting</u>.



### B. Attachment 2: Toll Rate Range Setting Process Virtual Boards Script (accompanies the boards)

Board #	Title	Script
1	Welcome! Public Hearing Virtual Information Room	<ul> <li>The Maryland Transportation Authority, or the M-D-T-A, welcomes you to the public hearing virtual information room for the Phase 1 South: American Legion Bridge I-270 to I-370 Toll Rate Range Setting Process.</li> <li>This public hearing virtual information room provides you with the same information as traditional in-person hearings. In response to the current COVID-19 Pandemic, we are practicing social distancing by sharing the public hearing materials virtually.</li> </ul>
2	Purpose of the public hearings for the Phase 1 South Toll Rate Range Setting Process	<ul> <li>During this public hearing, you will be provided an opportunity to comment on the Toll Rate Range proposal for Phase 1 South: American Legion Bridge I-270 to I-370.</li> <li>The public comment period starts on May 20, 2021 and closes on August 12, 2021 at 5 o'clock PM.</li> <li>The testimony and written comments received during the public comment period will be part of the official record reviewed by the M-D-T-A Board and M-D-T-A Executive Director.</li> <li>This virtual information room contains public hearing materials with information about: <ul> <li>the toll rate range setting process for Phase 1 South,</li> <li>the toll rate range proposal for Phase 1 South,</li> <li>how to submit written comments, and</li> <li>how to provide voicemail testimony.</li> </ul> </li> <li>Hearing materials should be reviewed online prior to attending a hearing.</li> </ul>
3	When are the public hearings and how do I comment on the tolling proposal?	<ul> <li>The MDTA is planning virtual and in-person hearings to seek public testimony on the proposed toll rate ranges for Phase 1 South.</li> <li>Registration to provide testimony at a public hearing will open once the public hearing dates are announced.</li> <li>There will be no formal presentation during the public hearings, and no responses to questions will be given.</li> <li>The public will be able to listen live to the hearings via telephone or by watching a livestream online.</li> <li>Dates and details will be provided in future announcements for public hearings to be scheduled during the comment period.</li> <li>Beginning May 20, 2021, public comment is being accepted, and all public hearing materials are available in the Virtual Information Room on the project webpage at mdta.maryland.gov/ALB270TollSetting.</li> </ul>



		• W b(	Vritten comments and call-in testimony through voicemail will e accepted for the official record through Thursday, August 12, 021 at 5 PM
		• W su	Vritten comments may be submitted by completing and ubmitting an electronic comment form on the project vebpage, by downloading and emailing a completed comment
		fc ai	nd mailing a completed comment form to the M-D-T-A.
		le	eaving a single voicemail that is limited to three minutes.
		• A m	nethods, will be given equal consideration.
		<ul> <li>If</li> <li>re</li> <li>D</li> <li>ct</li> <li>m</li> </ul>	you are unable to access the hearing materials online, or if you equire special accommodations under the Americans with Disabilities Act or require language translation services - free of harge - please contact the MDTA's Title Six Officer at <u>indtaeeo@mdta.maryland.gov</u> or at 410-537-6720.
4	What is Phase 1 South of the Phase 1:	• Le	et's get started with an explanation of what we mean when we av. "Phase 1 South."
	American Legion	• Fi	irst, Phase 1 South is part of a larger, historic effort to reduce
	Bridge I-270 to I-70 Relief Plan?	CC R	ongestion for millions of travelers in the National Capital egion known as "Phase 1: American Legion Bridge I-270 to I-70
		R	elief Plan".
		• Tl iu	he map shows the limits of Phase 1 in blue, which extend from ust south of the American Legion Bridge up to I-270 in
		I∨ Fi	Nontgomery County and north along I-270 up to I-70 in rederick County.
		• TI A M	he purple section shown within Phase 1 is "Phase 1 South: merican Legion Bridge I-270 to I-370," and is entirely within Aontgomery County.
		• TI Le	his Toll Rate Range Setting Process is focused on the American egion Bridge up to I-270, and north on I-270 to I-370.
5	What is being tolled within Phase 1 South?	<ul> <li>Pl</li> <li>th</li> <li>Ei</li> </ul>	hase 1 South: American Legion Bridge I-270 to I-370 is part of he Managed Lanes Study, which is following the National nvironmental Policy Act, or NEPA, process.
		• Tl tr	he Managed Lanes Study is being developed on an independent rack from Phase 1.
		• TI A A	he Maryland Department of Transportation State Highway administration, known as M-DOT S-H-A, has identified Iternative 9: Phase 1 South as the Recommended Preferred
		A	Iternative for the Managed Lanes Study.
		• A ty	ypical sections on this board.
		<ul> <li>TI</li> <li>Δ</li> </ul>	he top typical section shows replacement of the 60-year-old
		0	Occupancy Toll, or HOT, lanes in each direction across the New


		<ul> <li>Bridge to I-270. A third HOT lane will be provided in both directions on the New Bridge to accommodate vehicles exiting and entering the HOT lanes to and from the George Washington Parkway, south of the bridge. This typical section also shows a possible location for a pedestrian and bicycle shared-use path on the Bridge.</li> <li>The bottom typical section shows improvements along I-270 to I-370, where one existing high-occupancy vehicle, or H-O-V, lane will be converted to a HOT lane and one HOT lane will be added in each direction. The new HOT lanes would be separated and tolled to maintain traffic speeds or throughput.</li> <li>The Managed Lanes Study NEPA process will result in a Final Environmental Impact Statement, called an F-E-I-S, and RCOD do not include a managed lanes Build Alternative.</li> <li>To learn more about the Managed Lanes Study and the M-DOT S-H-A Recommended Preferred Alternative 9: Phase 1 South, please visit 495-270-p3.com/.</li> </ul>
6	How do HOT lanes benefit everyone?	<ul> <li>So you may be wondering what HOT lanes are and what benefits they provide over general purpose lanes.</li> <li>HOT lanes are dedicated managed lanes within the highway right of way that single-occupancy vehicle, or S-O-V, motorists may use by paying a variably priced toll.</li> <li>HOT lanes are designed to operate at 45 miles per hour or higher. Average speeds in the general-purpose lanes also improve because drivers choosing to use the HOT lanes reduce the vehicles in the general-purpose lanes.</li> <li>These improvements in speed and travel time encourage motorists who have been using local roadways to switch back to the interstate because it will be operating much better; thus, reducing cut-through traffic on the local roads.</li> <li>Free passage will be granted for H-O-V 3 Plus, buses, and motorcycles.</li> <li>By granting free passage to H-O-V 3 Plus, buses and motorcycles, these new lanes will: give people a more reliable trip, provide more equitable opportunities with the option to travel free, reduce dependence on single-occupancy vehicles ) and create new opportunities for ride sharing supporting regional planning efforts to expand HOT/HOV usage.</li> <li>The HOT lanes are compatible with the Express lanes in Virginia, which is important because they will be connecting directly to them.</li> </ul>



		<ul> <li>The HOT lanes provide better connections to existing transit service, thus bringing transit to offices, shops, and entertainment centers more quickly.</li> <li>And lastly, the HOT lanes connect to existing and future transit service which will help provide transportation connections to underserved communities and businesses.</li> </ul>
7	How are the MDTA, MDOT SHA and Developer partnering in Phase 1 South: American Legion Bridge I-270 to I-370?	<ul> <li>The next four boards discuss the partnership and roles and responsibilities of the state agencies and the developer involved in Phase 1 South.</li> <li>The M-D-T-A is the only State entity with the authority to set, revise and fix tolls and is responsible for setting toll rate ranges and conducting toll collection operations for Phase 1 South.</li> <li>M-DOT S-H-A is the State entity responsible for developing the Phase 1 South: American Legion Bridge I-270 to I-370 related to program development, solicitations and long-term program management.</li> <li>The Phase I Developer will conduct predevelopment work with the M-D-T-A and M-DOT S-H-A to advance the preliminary design to further avoid and minimize impacts.</li> <li>The Phase 1 South Section Developer will design and implement the toll system.</li> </ul>
8	Responsibilities of MDTA, MDOT SHA and Developer	<ul> <li>The M-D-TA will be involved in selecting the Phase 1 South Section Developer, will establish minimum and maximum toll rate ranges, set soft rate caps. They will also be responsible for maintaining tolling customer accounts, collecting tolls providing customer service, when needed, and administering the transfer of revenue to the Phase 1 Section Developer.</li> <li>M-DOT S-H-A will be responsible for managing the agreements made with the public-private partnerships - also known as P3 - and maintaining stakeholder engagement and communications. This includes commitments such as the Bi-State Agreement with Virginia for improvements to the New American Legion Bridge, regional transit benefits, agreements with utilities and other third parties, and maintenance of the new general-purpose lanes. M-DOT S-H-A will also coordinate all property purchases and obtain government approvals on all NEPA documents, such as the F-E-I-S and the ROD, should a build alternative be chosen.</li> <li>The Phase 1 South Section Developer will finance, construct, operate, and maintain the HOT lanes, toll gantries, and electronic signage. They will also set the variably priced tolls that must be within the toll rate ranges to be established by the M-D-T-A Board.</li> </ul>
9	Responsibility of the MDTA Board	<ul> <li>After considering all comments and testimony received during the toll rate range setting process, the M-D-T-A Board will vote on final toll rate ranges to be established for Phase 1 South.</li> </ul>



		<ul> <li>The M-D-T-A Board is governed by eight citizen Board Members appointed by the Governor, and confirmed by the Maryland Senate. The M-D-T-A Board is chaired by the Maryland Secretary of Transportation, Gregory Slater.</li> <li>James F. Ports, Jr. is the Executive Director of M-D-T-A and he oversees daily operations. Although he is not a voting Member of the M-D-T-A Board; he will have a role in the toll rate range setting process.</li> </ul>
10	What is the MDTA Board voting on?	<ul> <li>Following the hearings and public comment periods, the M-D-T-A Board will consider all comments received and then vote on the final M-D-T-A staff recommendation for the proposed toll rate ranges for Phase 1 South: American Legion Bridge I-270 to I-370, which will include the minimum and maximum toll rate ranges, the process for toll escalation, and toll discounts for certain types of vehicles.</li> <li>By law, the M-D-T-A Executive Director may set or adjust the soft rate cap, operational metrics, or toll zones consistent with the toll rate ranges that are established by the M-D-T-A Board.</li> <li>Before the M-D-T-A Board Members cast their votes, they want to hear from you. Therefore, the M-D-T-A is asking the public to comment on all elements of the toll rate range proposal for Phase 1 South.</li> </ul>
11	How are the proposed toll rate ranges for Phase 1 South different than tolls on the existing MDTA toll facilities?	<ul> <li>The toll rate ranges for Phase 1 South will differ from toll operations on existing M-D-T-A toll facilities, which have either a fixed price toll or a variably priced toll that uses time of day pricing, and focuses on revenue generation to allow M-D-T-A to construct, manage, operate and improve the State's toll facilities.</li> <li>With MDTA's existing fixed price facilities, vehicles are tolled at a set rate regardless of the time of day or congestion level.</li> <li>With M-D-T-A's existing variably priced facilities, vehicles are tolled at a set rate regardless of the time of day or congestion level.</li> <li>With M-D-T-A's existing variably priced facilities, vehicles are tolled at a set rate that can vary based on the time of day. This is used with the Intercounty Connector and the I-95 Express Toll Lanes.</li> <li>Phase 1 South would be a variably priced facility that uses dynamic pricing, which is new to Maryland, where tolls vary by tolling segment and congestion level.</li> <li>Dynamic pricing focuses on relieving congestion by maintaining reliability and traffic speeds of 45 miles per hour or greater in the HOT lanes.</li> <li>Generally speaking, with dynamic tolling, toll rates are set within established toll rate ranges to maintain free-flowing traffic on the HOT lanes and use pricing factors to influence the traffic flow – when lanes become more congested, the toll increases, and when lanes become less congested, the toll decreases.</li> <li>The M-D-T-A's existing toll facilities will not be impacted by this Toll Rate Range Setting Process.</li> </ul>





12	How will dynamic pricing work on the HOT lanes?	<ul> <li>Let's take a look at how dynamic pricing will work on the Phase 1 South HOT lanes.</li> <li>Toll rates will adjust as frequently as every 5 minutes, if needed, to maintain a free-flowing level of traffic – that is, 45 miles per hour or greater.</li> <li>Toll rates will generally increase when the HOT lanes are relatively full and traffic slows, and then decrease when the HOT lanes are less full.</li> <li>Tolls will be collected at highway speeds, using overhead gantries, with no toll plazas or toll booths – this is known as cashless tolling.</li> <li>Current toll rates for common destinations will be displayed on electronic roadway signs so drivers will know their toll prior to</li> </ul>
		<ul> <li>Please note, tolling gantry locations, as well as actual toll rates, will be identified by the Phase 1 South Section Developer in the future. Gantry locations shown in the public hearing informational materials are theoretical and for illustrative purposes only. Toll rates for each tolling segment will be set by the Developer within the M-D-T-A Board-approved toll rate ranges.</li> </ul>
13	How will your toll be determined for a trip?	<ul> <li>Here are two examples of how tolls would be calculated for a trip along the Phase 1 South HOT lanes.</li> <li>Please note, the toll rates used in the graphic are not actual; the example toll rates are for illustration purposes only. Once toll rate ranges are established by the M-D-T-A Board, the Developer will set actual toll rates within the approved toll rate ranges.</li> <li>Now, let's proceed with the examples.</li> <li>This is a graphic depicting a highway with four, free general purpose lanes and two tolled HOT lanes. There are four Interchange Crossroads labeled A, B, C and D. The HOT lanes between Interchange Cross Roads are called tolling segments - there are three in this example, and overhead tolling gantries are located within each of the segments. The HOT lanes may be accessed and exited from any of the four Interchange Cross Roads, A, B, C, or D. Before entering the HOT lanes, a digital road sign will show the anticipated total toll to the common destinations. In this example, a digital road sign is shown at Cross Roads C and D.</li> <li>To calculate a total trip cost, multiply the number of miles traveled within a tolling segment by the toll rate per mile for that given tolling segment. A trip may pass through multiple tolling segments, and the toll rate per mile may vary within each tolling segment based on traffic conditions.</li> </ul>



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		<ul> <li>In the first example, you are traveling from Cross Road A to Cross Road C, which involves passing through two tolling segments. The vehicle here is tolled at a rate of \$0.40 per mile for two miles in the first tolling segment and tolled at a rate of \$0.60 per mile for five miles in the second tolling segment, for a total trip cost of \$3.80.</li> <li>In the second example, you would pay a total trip cost of \$4.70.</li> <li>As a reminder, there will always be an option to travel in the existing general purpose lanes for free.</li> </ul>
14	How will tolls be collected?	<ul> <li>Three tolling collection methods will be used by the M-D-T-A on the HOT lanes. As motorists move beneath overhead gantries, tolls will be collected electronically via an <i>E-ZPass</i>* transponder, Pay-By-Plate (also called registered video), or through Video Tolling (also called unregistered video).</li> <li>When using an <i>E-ZPass</i> account, customers will pay the lowest tolls on every trip. <i>E-ZPass</i> transponders are free with no monthly fee for Maryland residents.</li> <li>Customers without an <i>E-ZPass</i> may register their license plate and a credit card for payment in the Pay-By-Plate or registered video program. When registered video customers drive under the gantries, a video image of the vehicle's license plate will be taken and their credit card will be charged at a toll rate that is 25 percent higher than the base rate paid by <i>E-ZPass</i> customers. No prepaid balance is required for Pay-By-Plate.</li> <li>To pay by Video Tolling or unregistered video, customers that do not have an <i>E-ZPass</i> nor are registered for Pay-By-Plate will have an image of their vehicle's license plate taken and an invoice called "a Notice of Toll Due" will be mailed to the registered vehicle owner. The toll rate for Video Tolling is 50% higher than</li> </ul>
15	Toll rate range	<ul> <li>the base rate paid by E-ZPass customers.</li> <li>Now we are going to explain the details of the toll rate range</li> </ul>
	proposal for Phase 1 South: American Legion Bridge I-270 to I-370	<ul> <li>proposal for Phase 1 South, which applies only to travel in the HOT lanes.</li> <li>There are three main parts of the proposal: <ul> <li>first – there are the minimum and maximum toll rate ranges with soft rate caps within each range;</li> <li>second – there are annual escalation factors to ensure the toll rate ranges, soft rate caps and unregistered video surcharge rates, adequately cover inflation and demand growth over the next 50 years;</li> <li>and third – there are discounts, which under this tolling proposal equates to free passage for high-occupancy vehicles with at least 3 passengers, called H-O-V 3 plus, for buses, and for motorcycles.</li> </ul> </li> <li>As a reminder, the existing free general-purpose lanes will remain free for everyone</li> </ul>



		<ul> <li>So, in summary, the difference between the minimum and maximum toll rates creates the proposed toll rate ranges, which vary by vehicle classification and payment type. Actual toll rates - to be determined dynamically by the Developer - will be constrained by soft rate caps within each toll rate range and can only be exceeded in specific circumstances.</li> <li>Next, we will review definitions of the toll rate types.</li> </ul>
16	What does the toll rate	• First, we have the minimum toll rate, which is the lowest toll
	range proposal include?	<ul> <li>rate per mile that may be charged within any tolling segment of the HOT lanes <i>or</i> the lowest total toll a customer will pay regardless of how far they travel.</li> <li>The minimum toll rate ensures short trips on the HOT lanes are charged a flat toll to cover toll collection costs.</li> <li>Next we have the soft rate can this is the per mile tell rate.</li> </ul>
		<ul> <li>Next, we have the soft rate cap - this is the per-inite ton rate that can only be exceeded when at least one of the following thresholds are met within a given tolling segment during the preceding 5-minute period.</li> </ul>
		<ul> <li>The first is when traffic volume exceeds 1,600 passenger car equivalent vehicles per hour per lane.</li> </ul>
		<ul> <li>The second is when the average speed is below 50 miles per hour.</li> </ul>
		• The soft rate cap protects customers from price gouging when traffic conditions do not justify higher rates.
		• Lastly, we have the maximum toll rate, which is the highest toll rate per mile that may be charged within any tolling segment along the HOT lanes. This rate may not be exceeded under any circumstances.
		• The toll rate may reach the maximum toll rate in
		extremely rare circumstances when travel demand
		is very high within a given tolling segment, such as
17	Minimum Toll Rate	<ul> <li>Now let's get into an example of how the minimum toll rate</li> </ul>
		will work.
		This board provides two examples of how the minimum toll
		rate will operate in the HOT lanes.
		• For these examples, the toll rate is set at its lowest rate in a
		tree-flowing traffic situation with very low congestion. For all
		venicie types, the minimum toll per trip is \$0.50 for <i>E-2Pass</i>
		The minimum toll rate per mile is \$0.20.
		• In the first example, Vehicle 1, a 2-axle vehicle with <i>E-ZPass</i> ,
		enters the HOT lanes at Interchange Cross Road A and travels a
		total of three miles to their exit at Interchange Cross Road C.
		During their trip, Vehicle 1 passes through two tolling
		segments before exiting the HOT lanes and is charged the minimum toll rate of \$0.20 per mile for one mile at Toll Gantry



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		<ul> <li>#1 between Interchange Cross Roads A and B, and is charged the minimum toll rate of \$0.20 per mile for two miles at Toll Gantry #2 between Interchange Cross Roads B and C, for a total toll of \$0.60.</li> <li>In the second example scenario, Vehicle 2, which is also a 2-axle vehicle with <i>E-ZPass</i>, enters the HOT lanes at Interchange Cross Road A and only travels a total of one mile to their exit at Interchange Cross Road B. During their trip, Vehicle 2 passes through one tolling segment before exiting the HOT lanes and is charged the minimum toll per trip of \$0.50 at Toll Gantry #1. The minimum per trip toll was charged because at only one mile traveled, the minimum \$0.20 per-mile toll rate would be less than the \$0.50 per trip minimum.</li> <li>As in all examples, the four existing general-purpose lanes many frage for all unphicles.</li> </ul>
		remain free for all vehicles.
18	What is the Soft Rate Cap?	<ul> <li>Moving on from the minimum toll rate, let's talk about the soft rate cap, which is a set toll rate amount within an approved toll rate range that may be temporarily exceeded when either vehicle throughput or speed performance metrics are not met for a specific tolling segment.</li> <li>A predefined soft rate cap "mechanism" is necessary to ensure the developer charges toll rates only up to the soft cap unless warranted by traffic or speeds.</li> </ul>
		<ul> <li>The soft rate cap may be exceeded if the average traffic volume measured in a segment during the preceding fiveminute period exceeds 1,600 passenger car equivalent vehicles per hour per lane, OR the average speed in a segment during the preceding fiveminute period is below 50 miles per hour.         <ul> <li>Note that a speed threshold of 50 miles per hour.</li> <li>Note that a speed threshold of 50 miles per hour is used here with the soft rate cap. This is higher than the 45 miles per hour overall minimum speed desired for the HOT lanes. The 5 mile per hour buffer is included here because the speeds are monitored in the previous 5-minute period.</li> <li>Allowing the soft rate cap to be exceeded if traffic levels become high enough is important because if traffic reaches certain levels that are understood to be approaching HOT lane capacity, speeds could decrease quickly even with small increases in traffic.</li> <li>Allowing the soft cap to be exceeded if speeds become low enough is important to ensure the overall mobility goals of the project are being achieved, even during more unique travel demand</li> </ul> </li> </ul>



		• The soft rate cap will always be lower than the maximum toll
		rate and can be exceeded only temporarily in the affected
		tolling segment to provide customers who choose to pay a toll
		a faster and more reliable trip.
		<ul> <li>M-D-T-A is proud to note that although not standard practice</li> </ul>
		in the tolling industry, we are choosing to be one of two states
		in the U. S. to set a soft rate cap to constrain the toll rate as a
		protective measure for our customers.
19	How will the Soft Rate	<ul> <li>Now that we have explained what the soft rate cap is, let's</li> </ul>
	Cap work?	review how it will work on the HOT lanes.
		• As mentioned, if the throughput or speed performance metrics
		are not met, the per-mile toll rates charged for a tolling
		segment may temporarily exceed the soft rate cap.
		• If that happens, vehicles would temporarily pay a toll rate for
		that segment that is greater than the soft rate cap toll amount.
		<ul> <li>In these instances, the toll rate cap would be multiplied by a</li> </ul>
		demand factor to calculate a new, temporary revised toll rate
		cap for only the affected segment - not the entire Phase 1
		South limits.
		• The toll rate will gradually return to the soft rate cap after the
		throughput drops below the 1,600-passenger car equivalent
		vehicles per hour per lane or average speed is at or above 50
		miles per hour.
		• The revised toll rate cap will be 90% of the prior revised toll rate
		cap and will continue decreasing every 5 minutes until the
		revised toll rate cap equals the soft rate cap.
		• We understand that it may be difficult to follow how the soft
		rate cap would be applied, with its traffic or speed thresholds
		and demand factors, so we have prepared a short video for you
		that runs through two examples.
		• We now request that you turn your attention to the Soft Rate
		Cap Informational Video found on the project webpage.
	·	INSERT SOFT RATE CAP VIDEO HERE
20	How does the Soft	• This graphic shows a more specific example of how the soft rate
	Rate Cap Benefit	cap could lower toll rates for customers.
	Customers?	• The example is for a northbound HOT Lanes segment between
		River Road on I-495 and Westlake Terrace on the I-270 West
		Spur for 6 o'clock PM to 6:59 PM.
		• The y-axis shows the estimated average 2-axle <i>E-ZPass</i> <sup>®</sup> toll rate
		per mile. The toll rates are rounded to the nearest 10 cents and
		expressed in 2021 equivalents in 2021 dollars for consistency
		with the rest of these boards.
		• The x-axis represents the share of weekdays at different toll
		rate levels.
		• As shown in the table, without the soft rate cap. shown in red.
		about two-thirds of weekdays would have rates above \$1.50



		<ul> <li>per mile and one-third of weekdays would have rates at or below \$1.50 per mile.</li> <li>With the soft rate cap, shown in blue, about two-thirds of weekdays would have rates at or below \$1.50 per mile and one- third of weekdays would have rates above \$1.50 per mile.</li> <li>The frequency of the per mile rate at or below \$1.50 doubles with the soft rate cap because the traffic metrics tied to the cap constrain the per mile rate, providing toll rate protection to customers.</li> <li>Visually this is seen by the blue peak that extends outward.</li> <li>Without the soft rate cap, the toll rate would rise into the solid red area above the \$1.50 soft rate cap.</li> </ul>
21	How often will the Soft Rate Cap be Exceeded?	<ul> <li>This table shows the estimated number of non-holiday weekdays, by assumed segments, that the soft rate cap could be reached, but not allowed to increase; or reached and to be exceeded due to traffic conditions.</li> <li>The red columns indicate the estimated number of weekdays traffic conditions allow the soft rate to be exceeded and the green columns indicate the estimated number of weekdays the per mile rate is limited to \$1.50 to protect customers when traffic conditions do not warrant higher tolls.</li> <li>The soft rate cap is generally reached and/or exceeded between four and seven PM, primarily on the inner loop. The highest occurrences are at or near the American Legion Bridge, which experiences some of the nation's worst congestion.</li> <li>For example, in the 6 o'clock PM to 6:59 PM column in the third row from the top – from River Road to I-495 (inner loop), East of the I-270 West Spur - it is estimated the soft rate cap would be reached but not allowed to be exceeded on 186 weekdays and the soft rate cap would be preceded on 24 woekdays</li> </ul>
22	How often will the Soft Rate Cap be Exceeded?	<ul> <li>Here's another way to look at the frequency.</li> <li>Following the same example from the previous board- from River Road to I-495 (inner loop), East of the I-270 West Spur – it is estimated the soft rate cap would be reached but not allowed to exceed 74% of weekdays and the soft rate cap would be exceeded 14% of weekdays.</li> </ul>
23	How does the Maximum Toll Rate Work?	<ul> <li>In addition to the minimum toll rate and the soft rate cap, the proposed toll rate range has a maximum per-mile toll rate, which is the highest rate a vehicle could ever pay per mile, and it cannot be exceeded under any circumstances.</li> <li>Maximum toll rates are not typically used for HOT lane facilities; however, the maximum toll rate offers added protection to toll customers.</li> <li>Customers could choose to pay this higher toll to avoid high traffic events such as a severe crash or extreme weather</li> </ul>



		<ul> <li>The maximum toll rate would not be applied to the entire length of the Phase 1 South, but only at the tolling segments that are experiencing unusually high congestion.</li> <li>The probability of reaching the maximum toll rate within a tolling segment is very small.</li> <li>The probability of reaching the maximum toll rate is highest on the northbound portion of Phase 1 South just north of the American Legion Bridge.</li> </ul>
24	Vehicle Classifications	<ul> <li>The proposed toll rate ranges, and soft rate caps within, vary based on the different vehicle classifications shown here, as well as payment type, which we have already reviewed.</li> </ul>
		• Vehicle classifications include passenger vehicles with 2 axles, motorcycles, 3-axle light, 3-axle heavy, 4-axle light, 4-axle heavy, 5-axle and those vehicles with 6 or more axles.
25	Proposed Toll Rate Ranges, Soft Rate Cap, Discounts and Free Passage Chart	<ul> <li>This board presents the proposed minimum and maximum toll rate ranges, soft rate caps, discounts and free passage for all vehicle classifications by payment type as part of the Toll Rate Range Proposal.</li> <li>Please note that everyone, regardless of vehicle classification or payment type, may continue to drive for free within the existing general-purpose lanes.</li> <li>As an example of how to read this chart, let's take a look at the first row, which covers a 2-axle Passenger Vehicle using an <i>E-ZPass</i> transponder using the Phase 1 South HOT lanes.</li> <li>This particular vehicle would be subject to a toll rate range of \$0.20 to \$3.76 per mile, with a soft rate cap of \$1.50. As a reminder, the actual per-mile toll rate would vary by tolling segment and congestion level; the soft rate cap of \$1.50 per mile would be exceeded only when one of the previously mentioned metrics for traffic volume or vehicle speed were not being met; and the maximum toll rate of \$3.76 per-mile would never be exceeded.</li> </ul>
26	Vehicles that travel for Free in the HOT Lanes	<ul> <li>As shown here, the free passage discount will be granted along the Phase 1 South HOT lanes for H-O-V 3 plus, buses, and motorcycles.</li> <li>Lastly, the existing general purpose lanes within Phase 1 South will remain free for all vehicles and will not be subject to any tolls.</li> </ul>
27	What is Toll Escalation	<ul> <li>For the toll rates to effectively manage demand and ensure reliability for users of the HOT lanes into the future, the maximum per mile rates, soft rate caps, and unregistered video surcharge rates will escalate over time to account for inflation, population employment, and income growth.</li> <li>The toll rate ranges will be adjusted annually according to the M-D-T-A-approved escalation factors that will account for</li> </ul>



			growth in demand for use of the HOT lanes over time, and
			inflation, which decreases the value of money over time.
		•	The growth in demand factors are based on decades of
			population, employment, and per capita income growth data
			and the inflation factor is specific to the region.
28	Example NB Trips	•	This board shows example trip costs in toll segments along Phase 1 South in off-peak and peak traffic conditions heading northbound, originating just south of the American Legion Bridge, and exiting at either MD 190, MD 187, or I-370. The tables show examples of total trip tolls and per mile tolls by segment for off-peak conditions for the 10am and 11am hours northbound and peak hour/heavy congestion conditions during the 6pm hour northbound. For example, during peak hours or heavy congestion northbound, the total cost from the American Legion Bridge to MD 190 could be \$5.23 per trip, from the Bridge to MD 187 could be \$10.03 per trip, and from the Bridge to I-370 could be \$18.60 per trip. Using the example northbound toll rates, the chart at the
			bottom of this board represents the total tolls motorists would pay traveling from Virginia to MD 190, MD 187 and I-370 at different times throughout the day. The vertical lines represent the examples shown.
29	Example SB Trips	•	This board is similar to the previous board showing example trip costs in off-peak and peak traffic conditions heading southbound. The trips originate north of I-370 and exiting at Gude Drive, I-495 or into Virginia. In this example, during OFF-peak conditions heading southbound, the total cost for a trip from I-370 to Gude Drive could be \$0.65 per trip, from I-370 to I-495, it could be \$3.23 per trip, and from I-370 to Virginia, it could be \$4.66 per trip. Using the example southbound toll rates, the chart at the bottom of this board represents the total tolls motorists would pay traveling from I-370 to Virginia, I-495 East and Gude Drive at different times throughout the day. Again, the vertical lines represent the examples shown.
30	Anticipated Customer Experience	•	This table shows example average tolls that could be paid per mile, the average toll paid, and the average trip length in miles at different times of day when traveling on the Phase 1 South HOT lanes, both northbound and southbound. As a reminder, the example toll rates shown here and in other slides are based on 2021 traffic and revenue models and are for illustrative purposes only; actual toll rates will be set by the Phase 1 South Section Developer.
31	How do toll rates compare?	•	The map on this board highlights four states—Virginia, North Carolina, Texas, and Colorado—that have similar HOT lane or



		express lane facilities and compares their average trip price
		With Phase I South.
		with an average trip price of \$8.45
		• Virginia's 1-495 Express Lanes have 14 miles of toll lanes with an
		average trip price of \$5.40
		<ul> <li>North Carolina's I-77 Managed Lanes have 26 miles of toll lanes</li> </ul>
		with an average trin price of \$7.02
		<ul> <li>Texas' I-635 Express Lanes have 13.3 miles of toll lanes with an</li> </ul>
		average trip price of \$5.53
		Texas' North Tarrant Express Lanes have 13.3 miles of toll lanes
		with an average trip price of \$5.65.
		<ul> <li>Colorado's US 36 HOT Lanes have 16 miles of toll lanes with an</li> </ul>
		average trip price of \$5.84.
32	Potential Trips	<ul> <li>This board provides example trips where a customer might</li> </ul>
	•	choose to pay a toll or ride in the Maryland HOT lanes.
		<ul> <li>In example one, a junior accounting associate living in Shady</li> </ul>
		Grove is starting her new job in Tysons. She'll take advantage of
		buses that ride in the HOT Lanes for free for her daily commute.
		She will save up to 10 minutes on the HOT lanes and her trip
		will be free in Maryland.
		<ul> <li>In example two, a plumber with a business in Tysons Corner</li> </ul>
		needs to respond to an emergency service call at 1:00 p.m. at
		the National Cancer Institute in Shady Grove. By choosing the
		HOT lanes he will save up to 10 minutes and his trip will cost an
		estimated \$3.72 in Maryland.
		• In example three, a family of four living in Vienna needs to get
		their youngest child to a 7:00 p.m. soccer game at Gaithersburg
		High School. They can expect to encounter rush-hour traffic, but
		since they are an HOV 3 plus vehicle, they will save up to 10
		Manyland
		<ul> <li>In example four an NIH researcher has a 9.00 a m speech at a</li> </ul>
		hiotech start-un based in McLean By using the HOT lanes he
		will save up to 14 minutes and his trip will cost an estimated
		\$4.03 in Maryland.
		<ul> <li>In the last example, a veteran from Falls Church has a 3:00 pm.</li> </ul>
		appointment at Walter Reed Medical Center. He will save up to
		21 minutes on the HOT Lanes and his trip will cost an estimated
		\$5.85.
		• The toll rates and time savings are based on 2021 projections
		and are preliminary for two-axle vehicles with <i>E-ZPass</i> .
33	Steps in the Toll Rate	• The steps in the toll rate range setting process for Phase 1
	Range Setting Process	South include three public comment periods during which the
	for Phase 1 South	public may comment on the tolling proposal before the M-D-T-



			A Board votes on the recommended final toll rate ranges in the fall of 2021.
		•	On May 20 <sup>th</sup> , the M-D-T-A staff presented the toll rate range
			proposal to the M-D-T-A Board and received approval to seek
			nublic comment. Public hearing materials were then posted to
			the M-D-T-A website for public review, and the first public
			comment neriod onened
			In Summer 2021, within the first public comment period, the M
		•	D-T-A will hold in-person and call-in public hearings, where
			public testimony will be heard. Once hearing dates are
			appounded details on how to register to provide testimony will
			he provided
			On August 12 <sup>th</sup> the first public comment period will close at
		•	Enm
			After the comment period closes, a summary and applying of
		•	After the comments and testimony received will be presented to the
			the comments and testimony received will be presented to the
			T A staff will then present the recommended tell rate ranges for
			Phase 1 South for the M.D.T.A. Board yets, and a second public
			Phase I South for the M-D-T-A Board Vote, and a second public
			comment period will open.
		•	In Fail 2021, the second public comment period will close. A
			summary and analysis of the comments and testimony received
			D.T.A. Poard and posted to the M.D.T.A. webpage. The M.D.T.A.
			D-T-A Board and posted to the M-D-T-A webpage. The M-D-T-A
			for Phase 1 South for the MAD T A Deard uste
			for Phase I South for the MI-D-I-A Board Vote.
		•	A third public comment period will open for public comment on
			the recommended action at the Fall 2021 M-D-T-A Board
			Meeting. The M-D-T-A Board will then vote on the final
			recommended toll rate ranges.
		•	The public is welcome to watch the MDTA Board meetings live
			by visiting the MDTA website by following the link provided at
			the bottom of this board. Pre-registration is required in order to
			comment on an MDTA Board Meeting agenda item. Instructions
24			for registration are available online at the link provided.
34	Title vi Questionnaire	•	Title Six of the Civil Rights Act of 1964 provides that no person
			shall, on the grounds 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.
		•	Ittle Six is important because it ensures that public services,
			including transportation, are provided in an equitable and non-
			discriminatory manner.
		•	Title Six provides opportunities for public participation in
			decision-making to everyone, regardless of race, color, national
		1	origin, or English proficiency.



		•	If you feel that M-D-T-A is not meeting the expectations of Title Six and would like to either file a complaint or seek assistance, please contact the Title Six Officer at 410-537-6720, by email at <u>mdtaeeo@mdta.maryland.gov</u> or by US Mail at 2310 Broening Highway, Baltimore, MD 21224. Please fill out a Title Six Survey by clicking on the Title Six link at the bottom of this board. Your input will assist M-D-T-A in planning outreach to communities during the course of the toll rate range setting process for Phase 1 South.
35	Thank you	•	Thank you for participating. Please stay up to date on the toll rate range setting process by going to our website at mdta.maryland.gov/ALB270TollSetting.



## C. Attachment 3: Soft Rate Cap Video and Script

Link to Soft Rate Cap Video: mdta.maryland.gov/ALB270TollSetting

Script for "Soft Cap Examples v2.pptx"

SLIDE	VO
1	Hi! And welcome to the Phase 1 South Toll Rate Range Setting Process in-depth look at the soft rate cap. We know the soft rate cap process is new to our customers, so we've prepared a video that will walk you through two examples of how the soft rate cap is determined and applied. In the examples, the soft rate cap is being exceeded based on two criteria: traffic volume <b>or</b> traffic speed. In both examples, the soft rate cap can be exceeded so that demand on the High-Occupancy Toll or HOT lanes can be appropriately managed and the overall mobility goals of the project can be achieved. Keep in mind that in both examples, toll rates would apply to each tolling segment, <i>individually</i> , rather than the project as a whole.
2	As we know, when HOT lanes are near capacity, congestion can develop in the HOT lanes with even small increases in traffic demand. So, allowing the soft rate cap to be exceeded is another way of saying toll rates will be adjusted to help prevent congestion in the HOT lanes. This adjustment is not arbitrary; it is demand-based and triggers when traffic volumes or speeds reach certain levels in the HOT lanes. So, to be specific, during a preceding 5-minute period, the soft rate cap can be exceeded when the traffic volume exceeds 1,600 vehicles per hour, per lane, <b>or</b> the average speed is below 50 mph.
3	Before we jump into our first example, let's dive into some graphs and get you oriented. First, all traffic volumes have been converted to 2-axle passenger car equivalents. Both graphs here have time on the X axis, in 5-minute intervals. The top graph show HOT lanes average traffic volume, along with the corresponding demand factors, on the Y axis, and the bottom graph has the toll rate per mile on its Y axis. This is where we'll see the soft rate cap fluctuate to meet traffic demands.
	OK, let's first look at an example of toll rates "exceeding" the soft rate cap due to <b>traffic volume</b> . We begin by looking at vehicles driving north on a segment of the I-270 HOT lanes towards I-370. Traffic is moving pretty well, and the volume is currently below the 1600 threshold, so the soft rate cap is at \$1.50 per mile. Five minutes later, demand for the HOT lane has increased and traffic levels increase to about 1,620. This triggers the demand factor of 1.05. We multiply the current \$1.50 per mile rate times the demand factor and get our new rate of \$1.58 per mile for this segment. Remember, this increase is temporary and will be recalculated to a new rate in the next five minutes. That new rate will be based on demand. This temporary increase in the rate helps ensure the overall mobility goals of the project can be met in the following 5-minute time periods.
4	In our next five minutes of looking at vehicles on a segment of the I-270 HOT lanes, demand and traffic continue to increase even after the toll rates were temporarily



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	increased to \$1.58. Traffic increases to about 1,660, corresponding to a demand
	factor of 1.10. Therefore, the previous revised toll rate cap of \$1.58 can be multiplied
	by 1.10 for a new revised toll rate cap of \$1.73 in this segment for the next 5-minute
	period.
5	We keep observing the vehicles on I-270, and traffic volume is still increasing, up to
	1,705 now, which leads to a new demand factor of 1.15 and \$1.73 times 1.15 gives us
	our new toll rate cap of \$1.99 for the next 5-minutes.
6	The \$1.99 toll rate begins to better manage demand, although traffic is still a little
	higher than the maximum desired level of 1,600. 1,600 was determined to be the
	traffic threshold for our project above which there is a higher risk for congestion to
	develop in the HOT lanes. So even though traffic drops to 1,620, it is still above the
	1,600 threshold, so a demand factor of 1.05 is used. The revised toll rate cap for the
	next 5-minute period is now \$2.09 for this segment, or \$1.99 times 1.05.
	Even if conditions are improving, the rate goes up – though at smaller increments –
	until the target of 1600 vehicles is achieved.
7	Traffic in the HOT lanes now drops below 1,600, meaning a lower risk for congestion
	to develop in the HOT lanes due to traffic levels. Once that 1600-vehicle target is
	achieved, the rate will begin to decline. It won't drop all at once - to help prevent the
	cycle from starting again - but as long as traffic stays below 1600, the rate will decline
	incrementally. A demand factor of 0.9 is used. \$2.09 times 0.90, gives us \$1.88 toll
	rate for the next 5-minute period. If traffic remains below 1,600, the revised toll rate
	cap would continue to decline at 0.90 factor intervals every 5-minutes until it returns
	to the \$1.50 soft rate cap.
8	OK, now we are going to look at an example of toll rates "exceeding" the soft rate
	cap due to <b>traffic speeds</b> . This specific example is a more unique situation compared
	to the traffic volume example on the previous slides. In this example congestion
	quickly builds on the HOT lanes and toll rates need to rapidly increase. Let's head out
	for another drive.
	We are looking at vehicles at the American Legion Bridge, heading north towards I-
	270. Speeds rapidly decline to about 35 miles per hour in the HOT lanes. The heavy
	traffic congestion could be due to events such as a severe crash or extreme weather.
	Because of the decrease in speed, the overall project mobility goals are not being
	achieved in this segment. With speed, the developer can apply a demand factor
	ranging from 1.05 to 1.25 for speeds below 50 miles per hour. More flexibility is
	allowed in the speed demand factors compared to the traffic demand factors shown
	previously to allow for a better pricing response during unique events. The developer
	applies the 1.25 demand factor in an attempt to return to speeds over 50 miles per
	hour as quickly as possible. Note that a speed threshold of 50 miles per hour is used
	here with the soft rate cap. This is higher than the 45 miles per hour overall minimum
	speed desired for the HOT lanes. The 5 mile per hour buffer is included here because
	the speeds are monitored in the previous 5-minute period to make toll rate changes



	in the next 5-minute period. The revised toll rate cap for the next 5-minute period in this segment becomes \$1.88, or \$1.50 times 1.25.
9	That change doesn't have the full intended effect, as speeds continue to decline even with the 1.25 demand factor and higher revised toll rate cap. A 1.25 demand factor is again applied. \$1.88 times 1.25 gives us a new toll rate of \$2.35 per mile for the next 5-minute period in this segment.
10	We see speeds continue to drop over the next five minutes, so the 1.25 demand factor is applied again.
11	And the next five minutes don't get much better, so the 1.25 factor is applied again.
12	Speeds finally recover to around 45 miles per hour. A demand factor of 1.05 is decided to be applied to the previous revised toll rate cap of \$3.68 to try to return speeds to over 50 miles per hour. Because 1.05 times \$3.68 is higher than the maximum toll rate of \$3.76 per mile, the revised toll rate cap would be limited to the \$3.76 maximum toll rate in this segment.
13	Speeds exceed 50 mph and a demand factor of 0.90 is applied. Similar to the traffic threshold example, applying the 0.90 demand factor would continue until the revised toll rate cap returns to the soft rate cap of \$1.50. The temporary revised toll rate cap doesn't immediately return to the soft rate cap now that we have exceeded 50 mph. This is to help ensure that demand is adequately managed before making large changes to the toll rates.
14	Thank you so much going for a ride with us. We hope you found this explanation of the soft rate cap helpful. For more information on the Phase 1 South Toll Rate Range Setting Process, please visit <i>mdta.maryland.gov/A-L-B-2-7-0-TollSetting</i> .



## D. Attachment IV: Vehicle Classifications

