

MARYLAND TRANSPORTATION AUTHORITY

RECOMMENDED TOLL RATE RANGES

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



Maryland
Transportation
Authority

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I. PURPOSE OF THE PRESENTATION

After presenting the Phase I South: American Legion Bridge I-270 to I-370 proposed toll rate ranges at two in-person public hearing sessions in Montgomery County and two virtual call-in public hearing sessions, and providing 85 days of open public comment on the proposal, the MDTA staff has developed a recommended action (recommended toll rate ranges), which is detailed in the sections below. As part of this MDTA Board meeting, the MDTA staff recommends that the MDTA Board approve a second public comment period, as stipulated in 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), to solicit comments on the recommended action. At this point, the MDTA staff are not seeking approval of the recommended action; the final MDTA Board vote will take place at a future MDTA Board meeting. The recommended action makes one change to the proposal that was advertised and presented to the public during the first public comment period.

II. RECOMMENDED ACTION (RECOMMENDED TOLL RATE RANGES)

A. Toll Rate Ranges

The recommended action (recommended toll rate ranges), which are provided in Table II-1 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. 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 II-1: Recommended Action (Recommended Toll Rate Ranges, Soft Rate Caps, Discounts & Free Passage)

VEHICLE TYPE	GENERAL PURPOSE LANES	HOT LANES					
		Payment Type	Recommended Toll Rate Ranges (2021\$/mile) ³			HOV3+ Vanpools Carpools	Buses Motorcycles
			Minimum Toll Rate Range ²	Soft Cap Rate	Maximum Toll Rate Range		
Passenger Vehicle (2-axle)	Free	Electronic Toll Collection (ETC) (E-ZPass)	\$ 0.17	\$ 1.50	\$ 3.76	Free	Free
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00		
3-axle Light			\$ 0.26	\$ 2.25	\$ 5.64		
3-axle Heavy			\$ 0.34	\$ 3.00	\$ 7.53		
4-axle Light			\$ 0.43	\$ 3.75	\$ 9.41		
4-axle Heavy			\$ 0.51	\$ 4.50	\$ 11.29		
5-axle			\$ 1.02	\$ 9.00	\$ 22.58		
6+-axle			\$ 1.28	\$ 11.25	\$ 28.22		
Passenger Vehicle (2-axle)	Free	Pay-By-Plate (Registered Video) (1.25x ETC)	\$ 0.21	\$ 1.88	\$ 4.70	Free	Free
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00		
3-axle Light			\$ 0.32	\$ 2.81	\$ 7.05		
3-axle Heavy			\$ 0.43	\$ 3.75	\$ 9.41		
4-axle Light			\$ 0.53	\$ 4.69	\$ 11.76		
4-axle Heavy			\$ 0.64	\$ 5.63	\$ 14.11		
5-axle			\$ 1.28	\$ 11.25	\$ 28.23		
6+-axle			\$ 1.59	\$ 14.06	\$ 35.28		
Passenger Vehicle (2-axle)	Free	Video Tolling ^{1,4} (Unregistered Video) (1.5x ETC)	\$ 0.26	\$ 2.25	\$ 5.64	Free	Free
Motorcycle			\$ 0.00	\$ 0.00	\$ 0.00		
3-axle Light			\$ 0.38	\$ 3.38	\$ 8.47		
3-axle Heavy			\$ 0.51	\$ 4.50	\$ 11.29		
4-axle Light			\$ 0.64	\$ 5.63	\$ 14.11		
4-axle Heavy			\$ 0.77	\$ 6.75	\$ 16.93		
5-axle			\$ 1.53	\$ 13.50	\$ 33.86		
6+-axle			\$ 1.91	\$ 16.88	\$ 42.33		

¹ 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.

² 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).

³ Escalation formulas can be found at mdta.maryland.gov/ALB270TollSetting and in Section B below.

⁴ 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. Escalation Factors

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 the table above using the escalation factors provided in this section. In this case, the recommendation is to move forward with the escalation factors presented in the original staff proposal, as summarized in this section.

1. Minimum Toll Rate Escalation Factor

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

$$Rate_x = Rate_{2021} * CPI_x / CPI_{2021}$$

Where:

X = current year

Rate_x = minimum toll rate in year x

Rate₂₀₂₁ = minimum toll rate established in the 2021 toll setting

CPI_x = Washington Metro CPI in January of year x

CPI₂₀₂₁ = Washington Metro CPI in January 2021

2. Maximum Toll Rate Escalation Factor

The maximum toll rate in any given year is recommended 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_x = maximum toll rate in year x

Rate₂₀₂₁ = maximum toll rate established in the 2021 toll setting

CPI_x = Washington Metro CPI in January of year x

CPI₂₀₂₁ = Washington Metro CPI in January 2021

3. Soft Rate Cap Escalation Factor

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

C. Soft Rate Cap Operational Metrics

As stated previously, the MDTA's 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. In this case, the recommendation is to move forward with the soft rate cap performance metrics presented in the original staff proposal, as summarized in this section.

- During operations of the High Occupancy Toll (HOT) lanes, if throughput or speed performance metrics are not met, the per-mile 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:

$$\text{Toll Rate Cap} \times \text{Demand Factor} = \text{Revised Toll Rate Cap}$$

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 II-2 below:

Table II-2: Demand Factor

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

III. Anticipated Schedule

DATE	ACTIVITY
September 30	<ul style="list-style-type: none"> • MDTA Staff present Recommended Action (Recommended Toll Rate Ranges) to MDTA Board • Second public comment period opens
October 28	<ul style="list-style-type: none"> • Second public comment period concludes at 5 PM
November Board Meeting	<ul style="list-style-type: none"> • MDTA staff present a summary and analysis of comments received during the second public-comment period and post the summary to MDTA’s website.
November Board Meeting	<ul style="list-style-type: none"> • Third public comment period is open during a livestreamed MDTA Board meeting open to the public prior to the MDTA Board voting on approval of the toll rate ranges.

IV. Approval to Advertise Recommended Action (Recommended Toll Rate Ranges) for Second Comment Period

The recommended action (recommended 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 recommendation 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 recommended action.

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. Based on public comment and feedback received on the MDTA staff tolling proposal presented on May 20, 2021, MDTA staff has recommended lowering the minimum toll rate range to match the off-peak minimum toll rate range for the Intercounty Connector (ICC)/MD 200.

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.

The MDTA is recommending 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 recommends 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. Discounts

In addition, the recommended action includes discounts for qualifying vehicles—including HOV 3+ (including car-vanpools), buses and motorcycles.

F. Recommended Action (Recommended Toll Rate Ranges)

The recommended action (recommended toll rate ranges) are provided in cost per mile (\$/mile). Table II-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 the second public comment period for the recommended action (recommended toll rate ranges) noted above.

