



Date: January 15, 2020
To: High Performance Transportation Enterprise Board
From: Kelly Brown, Tolling Operations Manager
Subject: C-470 Express Lanes Toll Rate Ranges

Purpose

The purpose of this memorandum is to summarize HPTE staff's planned approach for variable toll rates for the C-470 Express Lanes and to commence and facilitate a discussion with the Board and the public regarding the establishment of toll rates ranges.

Action

This item is for information and discussion only. Approval for the stated rates will be sought from the Board in March of this year.

Background

The C-470 Express Lanes are expected to open for tolled traffic in late spring 2020. Similar to the I-25 North Express Lanes, the C-470 Express Lanes will operate as a commuter corridor with fixed time of day toll rates.

Details

HPTE staff recommends setting a base toll rate sufficient to cover toll collection costs and cover debt service, but low enough to attract initial customers to use the toll lane, even when traffic in the general purpose lanes is relatively light and the corridor is free flowing.

As the anticipated customer for C-470 is likely a through-trip customer from I-25/E-470 to or from Wadsworth Blvd, initial fixed time-of-day toll rates are based upon models developed by the Traffic and Revenue study while also accounting for toll collection cost and revenue leakage.

The following tolling operations policy applies to C-470 Express Lanes:

- There is no HOV discount on C-470.
- Registered hybrids and EVs are assessed a toll.
- Motorcycles are free with no transponder required.
- Trucks over three axles pay a surcharge of \$25 per zone.
- The tolling regime is Time-of-Day (TOD) pricing.

Recommended fixed Time-of-Day Toll Rates for C-470 are presented in Table 1 on the following page. The technical memo from the tolling advisory consultant team is attached as Attachment A.

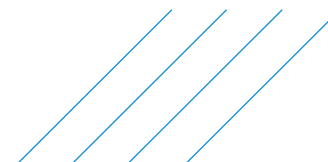
Next Steps

- The Board is being asked to review the recommended proposed initial AVI and LPT toll rates and provide feedback.
- HPTE staff will integrate any requested changes to the recommended proposed AVI and LPT toll rates for the C-470 Express Lanes and will return to the Board in March for adoption of the initial AVI and LPT toll rates for C-470.
- HPTE staff will begin the public outreach process two and a half to three months prior to C-470 tolling commencement.

Table 1 Time-of-Day AVI and License Plate Initial Toll Rates for 2 and 3 Axle Vehicles

C-470 EXPRESS LANES		WESTBOUND						EASTBOUND			
		I-25/E-470 to University		University to Santa Fe		Santa Fe to Wadsworth		Wadsworth to Broadway		Broadway to I-25/E-470	
		AVI	LPT	AVI	LPT	AVI	LPT	AVI	LPT	AVI	LPT
6:00 AM	6:59 AM	\$ 0.65	\$1.85	\$ 0.65	\$2.66	\$ 0.65	\$1.85	\$ 0.70	\$1.93	\$1.80	\$4.48
7:00 AM	8:59 AM	\$ 0.65	\$1.85	\$ 0.65	\$2.66	\$ 0.65	\$1.85	\$1.25	\$2.80	\$3.60	\$7.33
9:00 AM	2:59 PM	\$ 0.65	\$1.85	\$ 0.65	\$2.66	\$ 0.65	\$1.85	\$0.70	\$1.93	\$1.80	\$4.48
3:00 PM	3:29 PM	\$1.10	\$2.56	\$1.10	\$3.38	\$1.10	\$2.56	\$1.10	\$2.56	\$2.35	\$5.35
3:30 PM	6:29 PM	\$2.20	\$4.30	\$2.20	\$5.12	\$2.20	\$4.30	\$1.10	\$2.56	\$3.30	\$6.86
6:30 PM	5:59 AM	\$1.10	\$2.56	\$1.10	\$3.38	\$1.10	\$2.56	\$1.10	\$2.56	\$2.35	\$5.35
\$25 SURCHARGE FOR 4+ AXLE VEHICLES PER ZONE											

Attachment A: C-470 Express Lanes (Segment 1) Toll Rates Technical Memo



Memo

To: Nick Farber, High Performance Transportation Enterprise (HPTE)

From: Rami Harb	Email: Rami.harb@atkinsglobal.com
Date: 14 November 2019	Phone: 720-475-7079
Ref: C-470 EL Toll Rates	cc: Kelly Brown, HPTE

Subject: C-470 Express Lanes (Segment 1) Toll Rates

1. Document Purpose

Louis Berger conducted an investment grade Traffic and Revenue (T&R) study for the C-470 Express Lanes in August 2016. Atkins North America, Inc., (Atkins) has been tasked by HPTE with setting toll rates on C-470 Express Lanes (Segment 1) based on the models developed by Louis Berger while also accounting for toll collection cost and revenue leakage.

2. Project Limits and Tolling

The C-470 Express Lanes (Segment 1) extend from I-25 to Wadsworth Blvd. in the eastbound and westbound directions. The westbound direction consists of three zones whereas the eastbound direction consists of two zones (see Appendix 1). Entry and exit into and out of the Express Lanes are shown in Appendix 1.

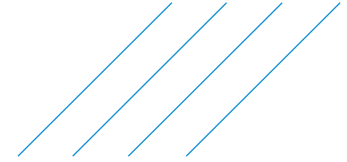
3. Operations policy

- The hours of operation are 24 hours a day, 7 days a week, 365 days a year.
- There is no HOV discount on C-470.
- Registered hybrids and EVs are assessed a toll.
- Motorcycles are not assessed a toll.
- Trucks over three axles pay a surcharge of \$25 per zone.
- The tolling regime is Time-of-Day (TOD) pricing.

4. Calculation of Transponder Rates

In calculating the Transponder or Automatic Vehicle Identification (AVI) toll rates, the following assumptions were made:

- Tolls will be charged based on a Time-of-Day methodology consistent with the current regime on I-25 Central and on US 36, and not on a dynamic tolling basis
- The minimum AVI toll rate is set to recover the AVI toll collection cost



- Toll rates are chosen based upon models developed by the T&R consultant

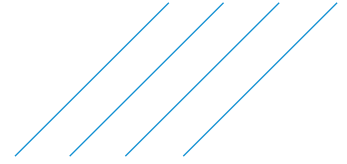
As a result, Table 1 below shows the TOD AVI toll rates as well as the License Plate Tolling (LPT) rates for year 2020 when the C-470 EL are expected to open to the public.

Table 1: Time-of-Day AVI and License Plate Tolling Rates for Year 2020

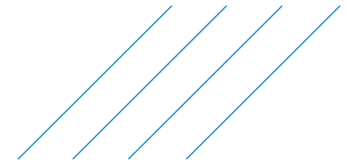
C-470 Express Lanes		WB						EB			
		From I-25/E-470 to University		University to Santa Fe		Santa Fe to Wadsworth		Wadsworth to Broadway		Broadway to I-25	
		AVI	LPT	AVI	LPT	AVI	LPT	AVI	LPT	AVI	LPT
6:00AM	6:59AM	\$ 0.65	\$ 1.85	\$ 0.65	\$ 2.66	\$ 0.65	\$ 1.85	\$ 0.70	\$ 1.93	\$ 1.80	\$ 4.48
7:00AM	8:59AM	\$ 0.65	\$ 1.85	\$ 0.65	\$ 2.66	\$ 0.65	\$ 1.85	\$ 1.25	\$ 2.80	\$ 3.60	\$ 7.33
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3:00PM	3:29PM	\$ 1.10	\$ 2.56	\$ 1.10	\$ 3.38	\$ 1.10	\$ 2.56	\$ 1.10	\$ 2.56	\$ 2.35	\$ 5.35
3:30PM	6:29PM	\$ 2.20	\$ 4.30	\$ 2.20	\$ 5.12	\$ 2.20	\$ 4.30	\$ 1.10	\$ 2.56	\$ 3.30	\$ 6.86
6:30PM	5:59AM	\$ 1.10	\$ 2.56	\$ 1.10	\$ 3.38	\$ 1.10	\$ 2.56	\$ 1.10	\$ 2.56	\$ 2.35	\$ 5.35

5. License Plate Tolling (LPT) Surcharge

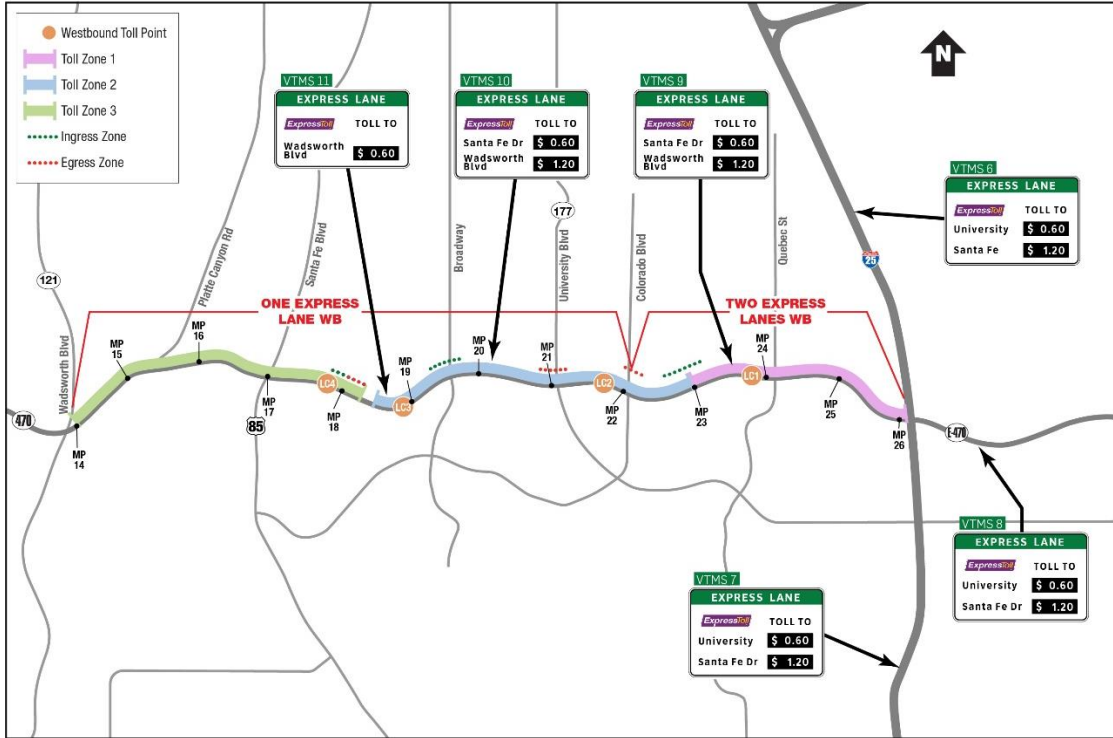
- LPT surcharge covers (1) back office additional cost plus and (2) LPT leakage
- LPT leakage is assumed at 40% based on historical data
- LPT leakage includes uncollectable and unbillable LPT transactions
- LPT surcharge for back office cost over AVI back office cost per tolling point is \$0.49



APPENDIX 1



Westbound C-470 Express Lanes Corridor



Eastbound C-470 Express Lanes Corridor

