

## Memo

To: Kelly Brown, Colorado Transportation Investment Office (CTIO)

<b>From:</b> Rami Harb, Atkins; Rinal Chheda, Atkins	<b>Email:</b> rami.harb@atkinsglobal.com
<b>Date:</b> December 2, 2022	<b>Phone:</b> 720-475-7075
<b>Ref:</b> Central I-70 Express Lanes	<b>cc:</b>

**Subject:** Toll Rate Setting – Central 70

## 1. Introduction

Atkins North America, Inc., (Atkins) has been tasked by the Colorado Transportation Investment Office (CTIO) with setting toll rates for the Central I-70 Express Lanes (C-70 ELs) based on two prior traffic studies conducted in 2015 and 2022.

## 2. Project Limits and Tolling

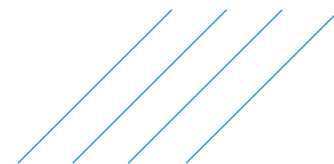
The 10-mile-long C-70 ELs extend from I-25 to Chambers Road. There are three designated entry and three designated exit points along the Express Lanes in each direction. Entering and exiting the C-70 ELs at non-designated locations is illegal. Drivers pay the same toll price for any distance travelled along the C-70 ELs in one direction.

## 3. Operations Policy

The operations policy for the C-70 ELs is summarized below:

- Hours of operation: 24 hours a day, 7 days a week, 365 days a year.
- High occupancy vehicles with three or more passengers (HOV3+) use the Express Lanes for free.
- Motorcycles use the Express Lanes for free.
- Vehicles with four or more axles pay a surcharge of \$25.
- The tolling regime is Time-of-Day (TOD) pricing (the tolling regime will become dynamic based on traffic demand in the future).

A comparative table of operations policy for all Colorado express lanes, including the C-70 ELs, is provided in **Appendix 1**.



## 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, I-25 North Segment 2, and US 36, and not on a dynamic tolling basis. This is a temporary tolling regime until dynamic pricing is implemented in the future.
- Due to potential post-COVID changes in travel patterns and peak hours, traffic volume data was obtained in November 2022 to explore current peak hour trends.
- The minimum AVI toll rate is set to recover the AVI toll operation cost.
- The maximum AVI toll rate is capped at \$4.50 for the opening year.

## 5. License Plate Tolling (LPT) Surcharge

License plate tolling (LPT) costs more than AVI tolling due to additional back-office costs and LPT leakage. Therefore, LPT rates are developed by imposing a surcharge on the AVI toll rates. Additionally, the eastbound direction has 3 toll points while the westbound direction has 2 toll points. Hence, the LPT rates for the eastbound direction will be higher than those for the westbound direction.

- LPT surcharge covers back-office additional cost and LPT leakage.
- LPT leakage is assumed at 40 percent based on historical data.
- LPT leakage includes uncollectable and unbillable LPT transactions.

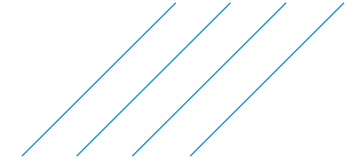
## 6. Recommended Toll Rates

Table 1 below shows the TOD AVI toll rates, as well as the LPT rates for the opening year.

**Table 1: Time-of-Day Transponder/AVI and LPT Rates for 2- and 3-Axle Vehicles (weekday & weekend)**

Eastbound	AVI Rate	LPT Rate	Westbound	AVI Rate	LPT Rate
6:00AM to 8:59AM	\$4.50	\$10.08	6:00AM to 8:59AM	\$4.50	\$9.01
9:00AM to 1:59PM	\$2.50	\$6.91	9:00AM to 1:59PM	\$2.50	\$5.84
2:00PM to 3:59PM	\$3.25	\$8.10	2:00PM to 3:59PM	\$3.25	\$7.03
4:00PM to 6:59PM	\$2.50	\$6.91	4:00PM to 6:59PM	\$2.50	\$5.84
7:00PM to 5:59AM	\$1.50	\$5.33	7:00PM to 5:59AM	\$1.50	\$4.26

Appendix 2 shows a comparison of maximum toll rates per mile for all tolled roadways operating in the United States.



## APPENDIX 1: Express Lanes Operations Policy

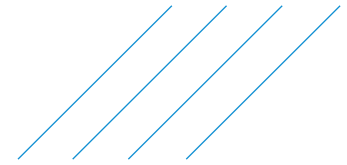
	C-70 Express Lanes	C-470 Express Lanes	US 36 Express Lanes	I-25 North Express Lanes	I-25 Central Express Lanes (reversible)	I-70 Mountain Express Lane
<b>Open 24/7</b>	Yes	Yes	Yes	Yes	No <sup>2</sup>	No <sup>1</sup>
<b>Tolling Regime</b>	Time-of-day	Time-of-day	Time-of-day	Time-of-day	Time-of-day	Dynamic rate
<b>HOV Discount</b>	HOV3+ free <sup>3</sup>	No discount	HOV3+ free <sup>3</sup>	HOV3+ free <sup>3</sup>	HOV3+ free <sup>3</sup>	No discount
<b>Motorcycle Policy</b>	Free	Free	Free	Free	Free	No discount
<b>Trucks / Trailers</b>	\$25 surcharge for 4+ axles	\$25 surcharge per zone for 4+ axles	\$25 surcharge per toll point for 4+ axles	\$25 surcharge for 4+ axles (for each Segment 2 and 3)	\$25 surcharge for 4+ axles	Not allowed
<b>Transit Buses</b>	Allowed	Allowed, but no transit routes exist currently	Allowed	Allowed	Allowed	Not allowed

<sup>1</sup>Open on weekends, holidays, and on special occasions

<sup>2</sup>On weekdays, southbound travel is open from 5 a.m. to 11 a.m., northbound travel is open from noon to 3 a.m. On weekends, northbound lanes are open from Friday noon until Monday 3 a.m.

<sup>3</sup>HOV 3+ vehicles must have an ExpressToll account and Switchable HOV transponder to avail discount

<sup>4</sup>Hybrid/Electric vehicles could use US 36 and I-25 Central Express Lanes for free until May 31, 2020



## APPENDIX 2: Toll Rates Per Mile

