

Resolution – HPTE #265

Approving a Toll Rate Adjustment for the US 36 Managed Lanes Project

WHEREAS, pursuant to Section 43-4-806, *et seq.*, C.R.S., the General Assembly of the State of Colorado created the Colorado High Performance Transportation Enterprise (“HPTE”) as a government-owned business within the Colorado Department of Transportation (“CDOT”) to pursue innovative means of more efficiently financing important surface transportation projects that will improve the safety, capacity, and accessibility of the surface transportation system; and

WHEREAS, such innovative means of financing projects include, but are not limited to, public-private partnerships, operating concession agreements, and user fee-based project financing; and

WHEREAS, pursuant to Section 43-4-806(2)(c)(I), C.R.S., the HPTE Board of Directors (the “Board”) has the authority to establish user fees for the privilege of using surface transportation infrastructure; and

WHEREAS, HPTE entered into that certain Amended and Restated Concession Agreement dated February 25, 2014 (the “Concession Agreement”), with Plenary Roads Denver LLC (the “Concessionaire”), under which the Concessionaire currently operates and maintains the US 36 Managed Lanes Project; and

WHEREAS, pursuant to Section 1.2 of Schedule 16 of the Concession Agreement, the Concessionaire has the right to propose changes to the existing Toll and Penalty Schedule from time to time as it considers appropriate, based on the Managed Lanes Goals; and

WHEREAS, Section 2.1 of Schedule 16 of the Concession Agreement provides that every Proposed Toll and Penalty Schedule (as defined in the Concession Agreement) shall include all data necessary for HPTE to consider the proposal for adoption as the Established Toll and Penalty Schedule; and

WHEREAS, Section 6.0 of Schedule 16 of the Concession Agreement provides for the rate of the Maximum Toll; and

WHEREAS, on July 19, 2017, the Board approved and adopted the Concessionaire’s Proposed Toll and Penalty Schedule after extensive public outreach and, which, on average, included an increase between 15 and 35 cents in some locations, while decreasing between 10 and 60 cents in others; and

WHEREAS, on May 9, 2018, the Concessionaire submitted to HPTE a Proposed Toll and Penalty Schedule, together with supporting data, which proposes to establish or

modify certain toll rates for the US 36 Managed Lanes Project as more particularly set forth in **Exhibit A**, attached hereto and incorporated herein; and

WHEREAS, the Concessionaire appeared at the Board's May 17, 2018 public meeting to summarize its Proposed Toll and Penalty Schedule and to answer any questions of the Board regarding its Proposed Toll and Penalty Schedule; and

WHEREAS, the Board discussed the Concessionaire's proposal and specifically requested that the Concessionaire return to its June 20, 2018 public meeting to present a more detailed overview of its Proposed Toll and Penalty Schedule, including specifics, timing and public outreach; and

WHEREAS, the Proposed Toll and Penalty Schedule requested a testing and implementation period of Dynamic Tolling (as defined in the Concession Agreement), prior to full execution by the year 2020; and

WHEREAS, in order to transition to and plan for Dynamic Tolling, the Concessionaire will install substantial hardware and infrastructure between now and 2020, which requires the use of up to the Maximum Toll rate for testing purposes; and

WHEREAS, the Board has determined that use of the Maximum Toll rate for testing purposes with the intent to transition to Dynamic Tolling is reasonable and appropriate; and

WHEREAS, subject to the requirements of Schedule 16 of the Concessionaire Agreement and without waiving any rights thereunder, the Board further determines that Concessionaire may charge up to the Maximum Toll rate once Dynamic Tolling testing is complete; and

WHEREAS, the Concessionaire may appear before the Board, prior to a time when its Dynamic Tolling algorithm is ready, to request that the Board adopt a toll rate adjustment for their current time-of-day schedule; and

WHEREAS, the Board may request that the Concessionaire appear before the Board at any time to obtain information, updates, or other instruction regarding the Concessionaire's Dynamic Tolling testing, its Maximum Toll Rate, or its algorithm for determining Dynamic toll rates; and

WHEREAS, HPTC has conducted public outreach on the Proposed Toll and Penalty Schedule submitted by the Concessionaire and made the feedback received from the public available to the Board for its review; and

WHEREAS, the Board has reviewed the Proposed Toll and Penalty Schedule and supporting data provided by the Concessionaire, and has determined the information provided satisfies the requirements of the Concession Agreement.

NOW THEREFORE BE IT RESOLVED, the HPTE Board hereby approves and adopts the Proposed Toll and Penalty Schedule attached as **Exhibit A**, which shall constitute the Established Toll and Penalty Schedule for the US 36 Managed Lanes Project to be effective as of July 1, 2018

Signed as of June 20, 2018

Don W. Marostica
Chairman, HPTE Board

Exhibit A
to HPTE Resolution #265 (June 20, 2018)
Proposed Toll and Penalty Schedule



Plenary Roads Denver LLC
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www.plenarygroup.com

May 9, 2018

HPTE
4201 East Arkansas Avenue
Denver, CO 80222

Attention: Mr. Nicholas Farber

RE: US-36 Managed Lanes Project – Proposed Toll and Penalty Schedule

Dear Mr. Farber,

Pursuant to Schedule 16, Section 2.1 of the Amended and Restated Concession Agreement, Plenary Roads Denver is providing the Proposed Toll and Penalty Schedule.

Plenary Roads Denver is currently in the process of a transition to Dynamic Tolling as prescribed by the Amended and Restated Concession Agreement, and requires a testing and implementation period prior to full execution of Dynamic Tolling. In order to deliver a Dynamic Tolling solution in 2020, hardware and software must be installed and tested on the corridor and within the Electronic Toll Collection System.

Plenary Roads Denver is requesting the Maximum Toll, as described in Schedule 16, Section 6.0, which is currently \$15.76, to be approved by HPTE.

Attached is the Proposed Toll and Penalty Schedule, and an FAQ sheet for Dynamic Tolling (Dynamic Express Lane Pricing).

The information provided in the following is in accordance with the Concession Agreement Schedule 16, Section 1.2, 2.1, 2.2 and 2.3. We request HPTE respond in accordance with Concession Agreement Schedule 16, Section 2.4(b).

Respectfully,
PLENARY ROADS DENVER, LLC

A handwritten signature in black ink, appearing to read 'Guevara'.

Christian Guevara
Vice President of Operations

cc: David Spector, HPTE
Brian Clark, Plenary Group
Terry Ostrom, Plenary Group
Simon Stachnik, Plenary Group



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May 9, 2018

HPTE
4201 East Arkansas Ave.
Denver, CO 80222

Attention: Nicholas Farber

RE: U.S. 36 Managed Lanes Project –U.S. 36 and I-25 Managed Lanes Proposed Toll and Penalty Schedule

Dear Mr. Farber,

In the following, please find PRD's Proposed Toll and Penalty Schedule for your review in accordance with the Concession Agreement Schedule 16, Section 1.2 and 2.1. We request to implement these changes starting on July 1, 2018.

The following is in alignment with required information from Schedule 16, Section 2.0 of the Concession Agreement:

2. Establishment of and Changes to Established Toll and Penalty Schedule

2.1. Every Proposed Toll and Penalty Schedule that proposes to establish or modify Tolls shall include:

(a) All data necessary for HPTE to consider the Proposed Toll and Penalty Schedule for adoption as the Established Toll and Penalty Schedule. Each Proposed Toll and Penalty Schedule shall include:

(i) The Proposed Algorithm

Toll rates will initially be charged based on variable time of day tolling which is consistent with the current methodology, and does not require a tolling algorithm. When the testing and commissioning of the Dynamic Tolling system begins, toll pricing will be charged based on travel demand usage. The current schedule plans to begin testing in 2018 through 2019, with implementation in 2020, PRD will continue to provide update to the status of the dynamic tolling system testing and integration to the HPTE Board through the process.

(ii) Tolls to be charged to Tolloed Vehicles using the Managed Lanes, or any portion thereof, while using an electronic, automated system enabling the ETCS to recognize the Motor Vehicle by means other than imagery, including Transponders (in each case a using a Vehicle Recognition System (VRS))", which in all cases must be Dynamic Tolling

ExpressTolls: Passenger Vehicle Tolls

We are requesting authorization to implement ETCS Automated Vehicle Identification (AVI) (a.k.a, ExpressToll) rates up to the Maximum Toll prescribed by the Amended and Restated Concession Agreement, which is currently \$15.76 for a one-way trip between Denver – Boulder utilizing the I-25 Central Express Lanes and US 36 Express Lanes.

(iii) Tolls to be charged to Tolloed Vehicles using the Managed Lanes, or any portion thereof, without using a Vehicle Recognition System (VRS)

Vehicles without VRS: License Plate Tolls (LPT) Passenger Vehicle Tolls

The maximum toll amount that could be charged to LPT customers will be up to 1.5 times the Maximum Toll for a one-way trip between Denver and Boulder utilizing the I-25 Central Express Lanes and US 36 Express Lanes.

(iv) Tolls to be charged to Motor Vehicles that are not Passenger Vehicles

U.S. 36 & I-25

Non-Passenger Vehicles (defined as vehicles with four or more axles) will continue to be charged a \$25.00 premium per gantry on the applicable gantry Passenger Vehicle Toll.

- (b) *A statement (if it is the case) that the Proposed Toll and Penalty Schedule is a remedial adjustment to the Established Toll and Penalty Schedule which the Concessionaire considers to be necessary to correct a Bus Delay Event, an error, or some other unintended consequence of that Established Toll and Penalty Schedule;*

U.S. 36 & I-25

This proposed Toll and Penalty Schedule is not a remedial adjustment to correct a Bus Delay Event, an error, or some other unintended consequence.

- (c) *A statement providing the highest and lowest Tolls that are proposed to be charged for each of the Tolls described in paragraphs 2.1(a)(i), 2.1(a)(ii), 2.1(a)(iii), and 2.1(a)(iv);*

For paragraph 2.1(a)(i), 2.1(a)(ii), 2.1 (a) (iii) please refer to the tables below for applicable maximum and minimum toll rates.

| Transaction Type | Maximum Toll Rate – one way between Denver and Boulder | Minimum Toll Rate – one way between Denver and Boulder |
|-----------------------|--|--|
| 2.1(a)(i) - Algorithm | See below | See below |
| 2.1(a)(ii) – AVI | \$15.76* | \$3.40 |
| 2.1(a)(iii) - LPT | \$23.64 | \$12.55 |

For paragraph 2.1(a)(iv), the Non-Passenger Vehicle premium is proposed as previously established at \$25 per gantry.

*Rate is the current Maximum Toll in FY2018

- (d) *If any of the Tolls described in paragraphs 2.1(a)(i), 2.1(a)(ii), 2.1(a)(iii), or 2.1(a)(iv) contain the right for the Concessionaire to manually override the Proposed Algorithm, a schedule of what specific Tolls will be if manually overridden, a description of when and on what terms the Tolls may be overridden, and a range of what the manually overridden Tolls will be:*

As we are not currently utilizing an algorithm, there is no algorithm for to override. The manual changes that will occur will be to test the dynamic tolling system or to waive toll revenues during time periods requested by emergency services.



- (e) *An explanation of the changes between the Proposed Toll and Penalty Schedule and the current Established Toll and Penalty Schedule, including why the changes are being proposed;*

The proposed changes to ETCS AVI (ExpressToll) rates and LPT are being made in continuing efforts to balance traffic and lane flow to ensure we meet our commitments to the Managed Lanes Goals, RTD, to account for inflation and an increase in Value of Time. The Managed Lanes Goals are defined in the Concession Agreement Schedule 16; Section 1.3 and are as follows:

Concessionaire acknowledges and agrees that all Established Toll and Penalty Schedules must be designed to ensure that Motor Vehicle speeds (a) For the portion of the US 36 Managed Lanes from Table Mesa to the Broomfield Park-n-Ride are an average of 55 miles per hour; (b) For the portion of the US 36 Managed Lanes from the Broomfield Park-n-Ride to Pecos Street are an average of 50 miles per hour; and (c) For the portion of the Managed Lanes from Pecos Street to Denver Union Station, that they maintain a travel time of no more than 8.75 minutes. In all cases during Peak Periods only (collectively, the “Managed Lanes Goals”).

Given the current traffic volume and growth rate, it is anticipated that a more reactive methodology to control traffic volume will be necessary to maintain the Managed Lane Goals. The industry standard which optimizes and best manages traffic demand is through dynamic tolling. By 2020, dynamic tolling is modeled to be in place in order to best manage PRD’s commitments while allowing for an efficient use of the US 36 Express Lanes corridor. This request is being completed in an effort to develop dynamic tolling and allow time for testing and implementation of the system prior to full execution in 2020. Dynamic tolling will allow PRD to effectively manage the traffic, and continue to satisfy the Managed Lane Goals.

- (f) *The Concessionaire’s good faith estimate, on a semi-annual basis, for as long as an effect persists, of incremental difference between the Toll Revenues generated under the Established Toll and Penalty Schedule and the Proposed toll and Penalty Schedule once Toll Revenues are being generated in accordance with the Proposed Toll and Penalty Schedule.*

U.S. 36 and I-25:

Specific to Dynamic Tolling testing and implementation, PRD is uncertain as to the incremental difference in revenue during the final 6 months of 2018. PRD does project continued year-over-year revenue growth consistent with prior years. Though there is some uncertainty regarding dynamic tolling, PRD believes that this effort will enable itself to effectively manage commitments to CDOT, HPTE, and RTD in order to balance future growth with travel reliability.

Respectfully,
PLENARY ROADS DENVER, LLC

Christian Guevara
Vice President of Operations

cc: David Spector, HPTE
Brian Clark, Plenary Group
Terry Ostrom, Plenary Group
Simon Stachnik, Plenary Group

At A Glance:

Dynamic Express Lane Pricing for US 36, I-25 Central

What is Dynamic Pricing?

With dynamic pricing, toll rates are continually adjusted according to real-time traffic conditions to maintain free-flowing levels of traffic in the Express Lanes. Under this system, prices increase when the Express Lanes get congested and decrease when the Express Lanes are less full. The current price is displayed on electronic message boards prior to the beginning of the tolled section.

Similar systems are in place along the I-70 Mountain Express Lanes and in Virginia, Florida and Texas.

What are the benefits of Dynamic Pricing?

This system is more flexible and active than using a fixed-pricing rate, and its real-time monitoring helps to consistently maintain optimal traffic flows in the Express Lanes.

Why is Plenary Roads Denver introducing Dynamic Pricing now?

Dynamic Express Lane Pricing will integrate the latest mobility technologies available to enable the US 36 and I-25 Central Express Lane corridors to maximize traffic flow, from transit to carpool to toll-paying to the general purpose lanes.

Dynamic Pricing has always been the vision for US 36 and I-25 Central Express Lanes. Plenary Roads Denver (PRD) is working to implement this as traffic, population and the economy grows along this corridor and to meet its public-private partnership requirements.

What can drivers expect to pay?

Dynamic Price testing will begin in early fall 2018. Drivers can expect toll rates similar to current peak-hour rates, with off-peak rates fluctuating based on traffic congestion.

How are rates set?

Rates are set by using an algorithm that tracks real-time traffic flow and adjusts them to optimize traffic volume within the Express Lanes. If rates are too high, no one will use the Express Lanes. If they are too low, too many people will use them and speeds will slow down.

How will drivers know when Dynamic Pricing is being tested and where?

Drivers along the corridor will be notified of Dynamic Pricing testing and current rates on the overhead message signs along the highway, in addition to a communication campaign that will include community groups and media.

Are all CDOT Express Lanes going to Dynamic Pricing?

Dynamic Pricing will be tested and implemented on US 36 and I-25 Central (from US 36 to Speer Boulevard). High Performance Transportation Enterprise (HPTE) will monitor the Dynamic Pricing technologies and evaluate any future implementation on other Colorado Department of Transportation ((CDOT) Express Lanes.

What you need to know:

- **Estimated Timeline** (A more-detailed timeline will be shared prior to testing and roll-out)
 - **Early fall 2018:** Begin Dynamic Pricing testing on US 36 and I-25 Central Express Lanes
 - **2019:** Continued testing along the corridor
 - **2020:** Roll out Dynamic Pricing on US 36 and I-25 Central Express Lanes
- **Pricing Rates:** The current maximum rate for one way from Boulder to Denver, and from Denver to Boulder, with peak congestion will be \$15.76 for those with an ExpressToll account and pass, based on HTPE Board approval. The maximum rate for License Plate Toll (LPT) will be \$23.64.
- PRD continues to see an increase in drivers using ExpressToll transponders: 82% of Express Lane drivers use transponders and are saving money by paying only the toll each time.
- **Express Lane Traffic Numbers:** Express Lane use has grown 19% between Denver and Boulder in the last year.
- **Traffic Flows:** Average trip time between Denver and Boulder in the Express Lanes has dropped by 10 minutes.