



Date: May 10, 2016
To: High Performance Transportation Enterprise Board
From: Brent E. Butzin, HPTE General Counsel
Joe Mahoney, OMPD
Subject: Presentation, I-70 Mountain Express Lane Winter Season Summary

Purpose

The purpose of this presentation is to brief the HPTE Board on the I-70 Mountain Express Lane operations in the first winter season.

Action

This item is informational.

Background

I-70 Mountain Express Lane open for tolled traffic on December 13, 2015 operating in a soft opening mode through December 31, 2015.

On January 1, 2016 the I-70 Mountain Express Lane formally opened and the presentation will include performance metrics for those days the Express Lane was open and operating between January 1, 2016 and April 10, 2016.



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**I-70 Mountain Express Lane
Winter Season Summary (January 1-
April 10, 2016)
May 17, 2016**



I-70 Mtn. Express Lanes – Agenda

- **Overview of Winter Season Operations**
- **Findings**
- **Next Steps**



I-70 Mtn. Express Lanes – Overview

- **Winter Season Operations Overview**

All data is from **January 1st through April 10th**

- ❖ 32 days of operation
 - ❖ 44 percent of 73 days allowed
- ❖ 326 hours of operation
 - ❖ 50 percent of 657 hours allowed
- ❖ Typical opening time
 - ❖ 9 AM
- ❖ Typical closing time
 - ❖ January: 8 PM
 - ❖ February through April: 7 PM



I-70 Mtn. Express Lanes – Findings

- **Winter Season Volumes**

- ❖ **Corridor**
 - ❖ 1.03 million vehicles
 - ❖ 2010-2012 average: 896,000 vehicles
- ❖ **PPSL**
 - ❖ 42,600 vehicles
 - ❖ 4 percent capture rate



I-70 Mtn. Express Lanes – Findings

- **Daily Volumes**

- ❖ **Corridor**

- ❖ Average: 33,200 vpd
 - ❖ 2010-2012 average volume: 29,200
 - ❖ Low: 11,800 vpd (Saturday April 9th, after Spring Break)
 - ❖ High: 46,800 vpd (Saturday January 2, end of Christmas Break)
 - ❖ 2010-2012 maximum volume: 41,000

- ❖ **PPSL**

- ❖ Average: 1,330 vpd
 - ❖ Low: 215 vpd (Saturday February 13, Presidents Day weekend, \$7 toll)
 - ❖ High: 3,200 vpd (Saturday January 2, end of Christmas Break, \$3 toll)

- ❖ **Averages by Day**

- ❖ Saturdays: 29,400 vpd on corridor, 960 vpd in PPSL (3% capture rate)
 - ❖ 2010-2012: 26,600 vpd
 - ❖ Sundays: 34,000 vpd on corridor, 1,700 vpd in PPSL (5% capture rate)
 - ❖ 2010-2012: 31,900 vpd



I-70 Mtn. Express Lanes – Findings

• Travel Time

- ❖ PPSL
 - ❖ Peak Hour Season Average: 12.0 minutes (60 mph)
 - ❖ Slowest: 15.2 minutes (47 mph)
 - ❖ Sunday January 31st, X Games Weekend
 - ❖ GP lanes 17.5 minutes (41 mph)
 - ❖ Fastest: 11.3 minutes (64 mph)
 - ❖ Saturday April 9th, after Spring Break
 - ❖ GP lanes 11.6 minutes (62 mph)
- ❖ General Purpose Lanes
 - ❖ Peak Hour Season Average: 13.6 minutes (53 mph)
 - ❖ Slowest: 17.5 minutes (41 mph)
 - ❖ Sunday January 31st, X Games Weekend
 - ❖ Fastest: 11.6 minutes (62 mph)
 - ❖ Saturday April 9th, after Spring Break
 - ❖ 2013-2015 Peak Hour Season Average: 16.5 minutes (44 mph)
 - ❖ Slowest: 44.2 minutes (16 mph)
 - ❖ Fastest: 11.6 minutes (62 mph)



I-70 Mtn. Express Lanes – Findings

- **Incidents (PPSL Open)**
 - ❖ 23 total incidents
 - ❖ 4 in PPSL
 - ❖ 2 straddled PPSL and GP lanes
 - ❖ 17 in GP lanes
 - ❖ Average of 22 minutes between incident reported and incident cleared
- ❖ 2013-2015: Average of 27 incidents between January 1st and April 10th



I-70 Mtn. Express Lanes – Findings

- **Tolling**

- ❖ **Minimum Toll: \$3**

- ❖ Saturday, January 2
 - ❖ 3,200 vpd in PPSL
 - ❖ 46,800 vpd on corridor
- ❖ Sunday, January 3
 - ❖ 2,200 vpd in PPSL
 - ❖ 37,000 vpd on corridor

- ❖ **Maximum Toll: \$8**

- ❖ Sunday, February 14
 - ❖ 625 vpd in PPSL
 - ❖ 33,400 vpd on corridor

- ❖ **Tolling Methodology**

- ❖ \$4 at opening
- ❖ Raise to \$6 when EJMT volumes exceed 2,000 vph



I-70 Mtn. Express Lanes – Findings

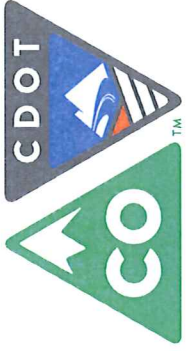
- **Summary of Findings**
 - ❖ Winter season throughput increased by 15 percent
 - ❖ Peak day throughput increased by 5,800 vehicles
 - ❖ Peak hour travel speeds stayed above 45 mph in the PPSL and above 35 mph in the GP lanes throughout the season
 - ❖ GP lane travel times have improved by 18 percent
 - ❖ Incidents on the corridor were down 15 percent
 - ❖ Core operating hours of 9 AM – 7 PM allow for safe opening for operators and reliable conditions for users
 - ❖ Toll rates of \$4 to \$6 maintained good flow in the GP lanes and a 10-15 speed differential between the PPSL and the GP lanes



I-70 Mtn. Express Lanes – Findings

- **Other Benefits**

- ❖ Express Lane have been well received by public and the media
- ❖ Alleviated congestion on Frontage Road
- ❖ Time to clear incidents has improved
- ❖ Time to clear corridor back-ups has substantially improved



I-70 Mtn. Express Lanes – Next Steps

- **Next steps**
 - ❖ Refine weekly report format
 - ❖ Begin Summer operations on Memorial Day weekend
 - ❖ Determine Summer hours of operations
 - ❖ Existing MOU:
 - ❖ Precludes opening prior to 9 AM
 - ❖ Sunday of July 4th weekend and Labor Day are the two busiest days of the year, with EJMT volumes exceeding 2,000 vph by 8 AM
 - ❖ 73 days of operation will likely be reached by late September (end of summer season) or late November (early winter season).



I-70 Mtn. Express Lanes

- **Questions??**



I-70 Mtn. Express Lanes – Summary

Date	Express Lane Volume	General Purpose Lanes Volume	Total Corridor Volume	Peak Hour	Peak Hour Volume	MEXL Peak Hour Speed	GP Lanes Peak Hour Speed	Time Opened	Time Closed	Notes
Friday, January 1st	710	N/A	N/A	N/A	N/A			2:30 PM	6:30 PM	No Incidents
Saturday, January 2nd	3,203	43,565	46,768	2PM-3PM	4,392		58 MPH	9:00 AM	8:30 PM	2 incidents
Sunday, January 3rd	2,224	36,966	39,190	1PM-2PM	4,139		57 MPH	9:00 AM	6:00 PM	3 incidents
Saturday, January 9th	764	29,965	30,729	4PM-5PM	3,224	62 MPH	55 MPH	9:45 AM	8:00 PM	No Incidents
Sunday, January 10th	1,911	37,100	39,011	3PM-4PM	4,017	58 MPH	51 MPH	9:00 AM	7:00 PM	1 incident
Saturday, January 16th	857	25,085	25,942	3PM-4PM	2,924	67 MPH	56 MPH	9:00 AM	6:30 PM	1 incident
Sunday, January 17th	1,003	30,897	31,900	4PM-5PM	2,647	58 MPH	44 MPH	10:00 AM	8:00 PM	No Incidents
Monday, January 18th	2,190	34,284	36,474	1PM-2PM	3,062	60 MPH	45 MPH	9:00 AM	8:00 PM	3 incidents
Saturday, January 23rd	1,249	26,607	27,856	5PM-6PM	3,017	59 MPH	48 MPH	9:00 AM	7:30 PM	1 incident
Sunday, January 24th	1,200	N/A	N/A	N/A	N/A			9:00 AM	7:00 PM	No Incidents
Saturday, January 30th	239	27,002	27,241	2PM-3PM	2,776	69 MPH	59 MPH	9:00 AM	7:30 PM	No Incidents
Sunday, January 31st	2,433	35,716	38,149	1PM-2PM	3,529	52 MPH	36 MPH	9:00 AM	7:50 PM	No Incidents
Saturday, February 6th	1,203	30,076	31,279	4PM-5PM	3,489	59 MPH	48 MPH	9:40 AM	7:30 PM	1 incident
Sunday, February 7th	1,467	32,893	34,360	2PM-3PM	3,393	64 MPH	53 MPH	11:00 AM	6:00 PM	2 incidents
Saturday, February 13th	215	29,103	29,318	4PM-5PM	3,412	65 MPH	54 MPH	9:00 AM	6:00 PM	No Incidents
Sunday, February 14th	624	32,752	33,376	2PM-3PM	3,591	64 MPH	54 MPH	9:00 AM	7:00 PM	1 incident
Monday, February 15th	1,093	37,212	38,305	1PM-2PM	3,277	56 MPH	38 MPH	9:00 AM	7:30 PM	No Incidents
Saturday, February 20th	1,029	28,701	29,730	3PM-4PM	3,299	54 MPH	38 MPH	9:00 AM	7:00 PM	2 incidents
Sunday, February 21st	1,714	37,764	39,478	12PM-1PM	3,696	65 MPH	52 MPH	9:00 AM	7:00 PM	1 incident
Saturday, February 27th	584	29,894	30,818	4PM-5PM	3,400	58 MPH	43 MPH	9:00 AM	6:30 PM	No Incidents
Sunday, February 28th	3,040	37,908	40,948	11AM-12PM	3,934	60 MPH	46 MPH	9:00 AM	7:00 PM	2 incidents
Saturday, March 5th	603	29,313	29,916	3PM-4PM	3,285	69 MPH	58 MPH	9:00 AM	7:00 PM	1 incident
Sunday, March 6th	2,073	37,051	39,124	1PM-2PM	3,807	61 MPH	48 MPH	9:00 AM	7:00 PM	1 incident
Saturday, March 12th	0	30,059	30,059	3PM-4PM	3,244		58 MPH			N/A
Sunday, March 13th	1,289	26,962	28,251	3PM-4PM	3,556	64 MPH	55 MPH	2:33 PM	6:30 PM	No Incidents
Saturday, March 19th	1,584	34,964	36,548	3PM-4PM	3,828	66 MPH	55 MPH	7:15 AM	7:00 PM	No Incidents
Sunday, March 20th	2,556	38,523	41,079	3PM-4PM	4,202	53 MPH	39 MPH	9:00 AM	7:00 PM	1 incident
Saturday, March 26th	918	32,000	32,918	4PM-5PM	3,230	70 MPH	59 MPH	9:00 AM	7:00 PM	No Incidents
Sunday, March 27th	1,611	36,730	38,341	2PM-3PM	3,677	62 MPH	47 MPH	9:00 AM	6:30 PM	No Incidents
Saturday, April 2nd	669	32,714	33,383	3PM-4PM	3,793	65 MPH	54 MPH	9:00 AM	7:00 PM	No Incidents
Sunday, April 3rd	1,511	38,197	39,708	3PM-4PM	3,824	54 MPH	36 MPH	9:00 AM	7:00 PM	No Incidents
Saturday, April 9th	261	11,548	11,809	3PM-4PM	1,547	70 MPH	54 MPH	9:00 AM	5:30 AM	No Incidents
Sunday, April 10th	613	16,768	17,381	1PM-2PM	1,929	70 MPH	59 MPH	11:38 AM	5:30 AM	No Incidents

