



# COLORADO

Department of  
Transportation



**I-70 Mountain Express Lane (MEXL)  
2017 Winter Season Summary (January 1 - April 16, 2017)  
May 17<sup>th</sup> 2017**



## I-70 Mtn. Express Lanes – Agenda

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



## I-70 Mtn. Express Lanes – Overview

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### 2016-17 Ski Season Summary

#### ❖ Late Start

- ❖ No significant snow until the 3<sup>rd</sup> week of December

#### ❖ Great Mid-Season Conditions

- ❖ Near continuous snow from Mid-December to Mid-February

#### ❖ Dry March

- ❖ Warm with minimal new snow through Spring Break

#### ❖ April

- ❖ Some weekend storms but the season had ended



# I-70 Mtn. Express Lanes – Overview

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## MEXL Overview

All data is from January 1<sup>st</sup> 2017 through April 16<sup>th</sup> 2017

❖ 34 days of operation

❖ 47 percent of 73 days allowed

❖ 322 hours of operation

❖ 49 percent of 657 hours allowed

❖ Typical opening time

❖ 9 AM

❖ Typical closing time

❖ January: 7 PM Saturday, 8 PM Sunday

❖ February through April: 6 PM Saturday and Sunday



# I-70 Mtn. Express Lanes – Findings

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## Volume Summary

### ❖ Corridor

- ❖ 1.12 million vehicles (+8.7%)
  - ❖ Last year (2016): 1.03 million

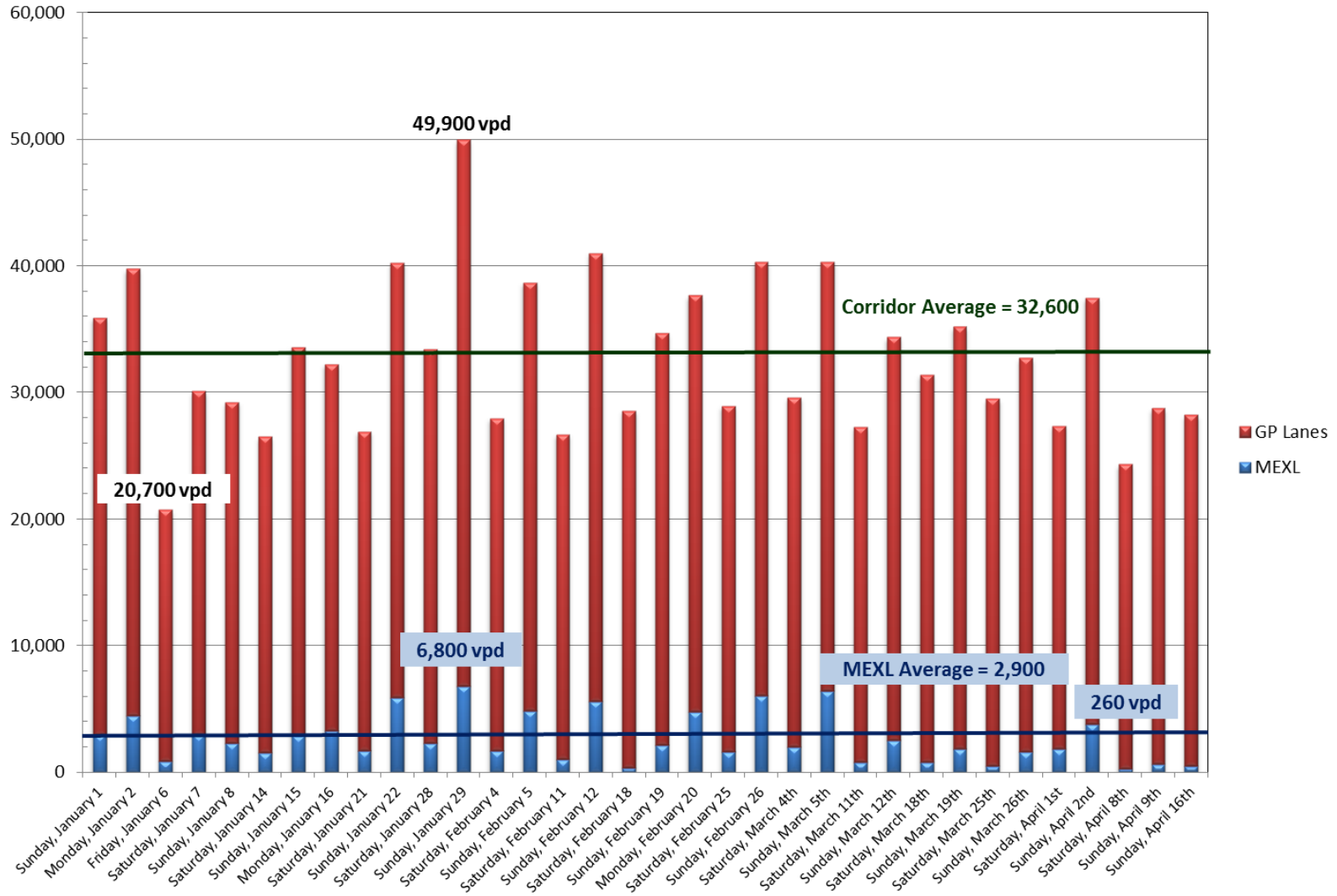
### ❖ MEXL

- ❖ 89,800 vehicles (+111%)
  - ❖ 8 percent capture rate
  
- ❖ Last Year (2016): 42,600 vehicles
  - ❖ 4 percent capture rate



# I-70 Mtn. Express Lanes – Findings

## I-70 MEXL 2017 Winter Season Daily Volumes





# I-70 Mtn. Express Lanes – Findings

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- **Daily Volume Comparisons**

- ❖ **Corridor Volumes – Includes MEXL and GP Lanes**

- ❖ Average: 32,600 vpd / Last Year (2016): 32,200 vpd
- ❖ Low: 20,700 vpd (Friday, January 6<sup>th</sup>) / Last Year: 11,800 vpd
- ❖ High: 49,900 vpd (Sunday January 29<sup>th</sup>, X-Games Weekend) / Last Year: 46,800

- ❖ **MEXL**

- ❖ Average: 2,600 vpd / Last Year: 1,200 vpd
- ❖ Low: 260 vpd (Saturday April 8<sup>th</sup>, End of Ski Season, \$5 toll) / Last Year: 215 vpd (Saturday February 13<sup>th</sup>, Presidents Day weekend, \$7 toll)
- ❖ High: 6,800 vpd (Sunday, January 29<sup>th</sup>) / Last Year: 3,200 vpd (Saturday January 2<sup>nd</sup>, end of Christmas Break, \$3 toll)



## I-70 Mtn. Express Lanes – Findings

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- **Daily Volumes Comparisons**

- ❖ **Averages by Day**

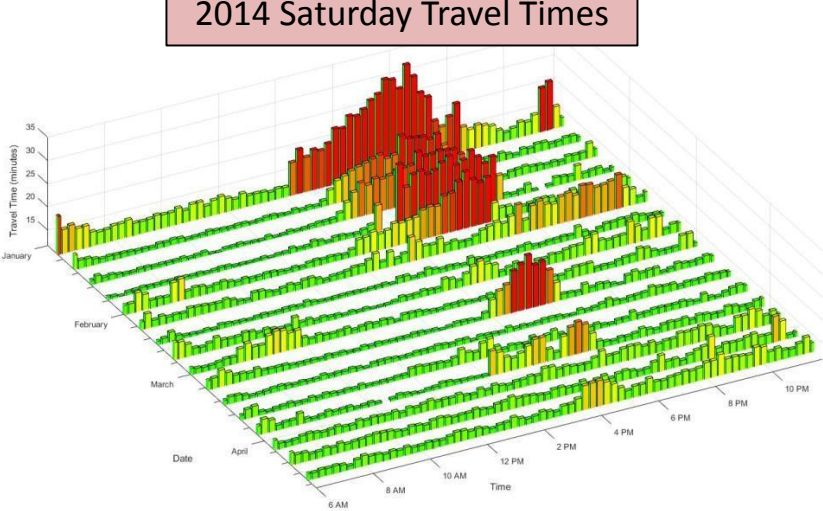
- ❖ Saturdays: 28,500 vpd on corridor, 1,400 vpd in MEXL (5% capture rate)
  - ❖ Last Year: 30,300 vpd on corridor, 960 vpd in MEXL (3% capture rate)
  - ❖ 2010-2012: 26,600 vpd
- ❖ Sundays: 36,300 vpd on corridor, 3,600 vpd in MEXL (10% capture rate)
  - ❖ Last Year: 34,900 vpd on corridor, 1,600 vpd in MEXL (5% capture rate)
  - ❖ 2010-2012: 31,900 vpd



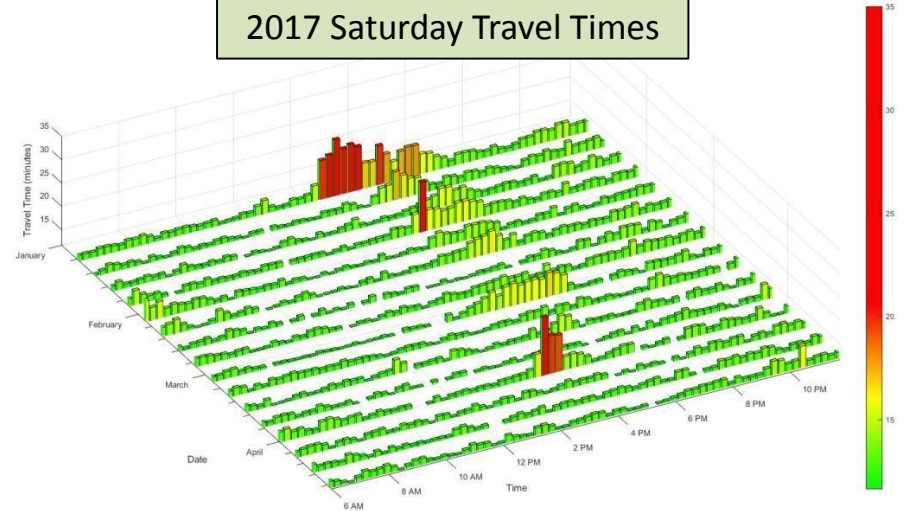


# I-70 Mtn. Express Lanes – Findings

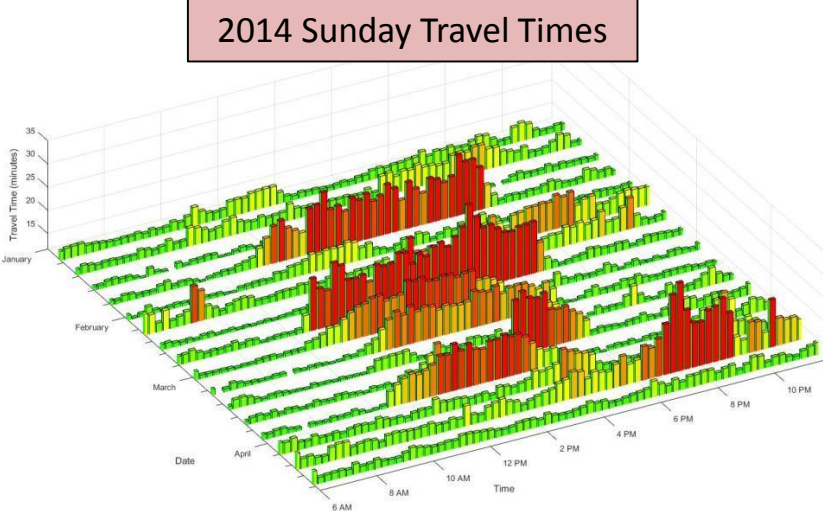
2014 Saturday Travel Times



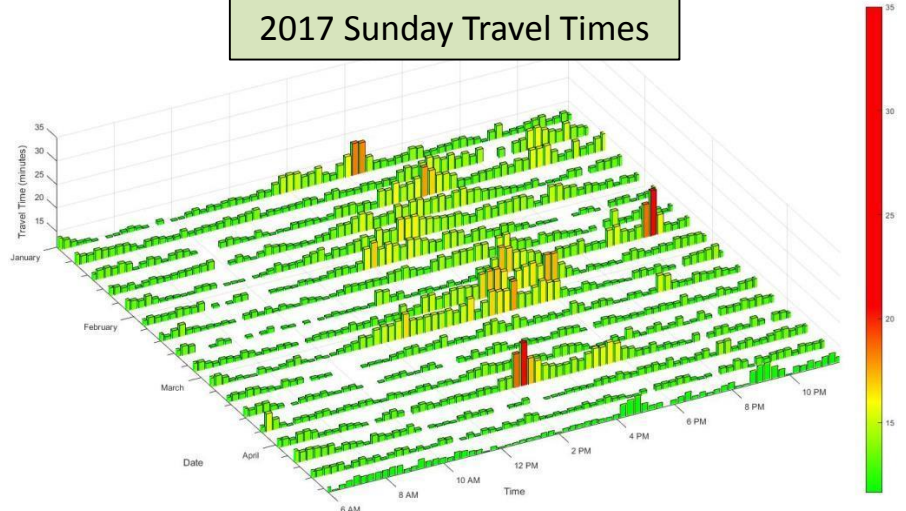
2017 Saturday Travel Times



2014 Sunday Travel Times



2017 Sunday Travel Times





## I-70 Mtn. Express Lanes – Findings

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- **Incidents (MEXL Open)**

- ❖ 21 crashes

- ❖ 3 in MEXL
- ❖ 3 straddled MEXL and GP lanes
- ❖ 15 in GP lanes
- ❖ 6 non-crash related incidents

- ❖ Last Year: 27 crashes

- ❖ 2013-2015: Average of 14 crashes per year

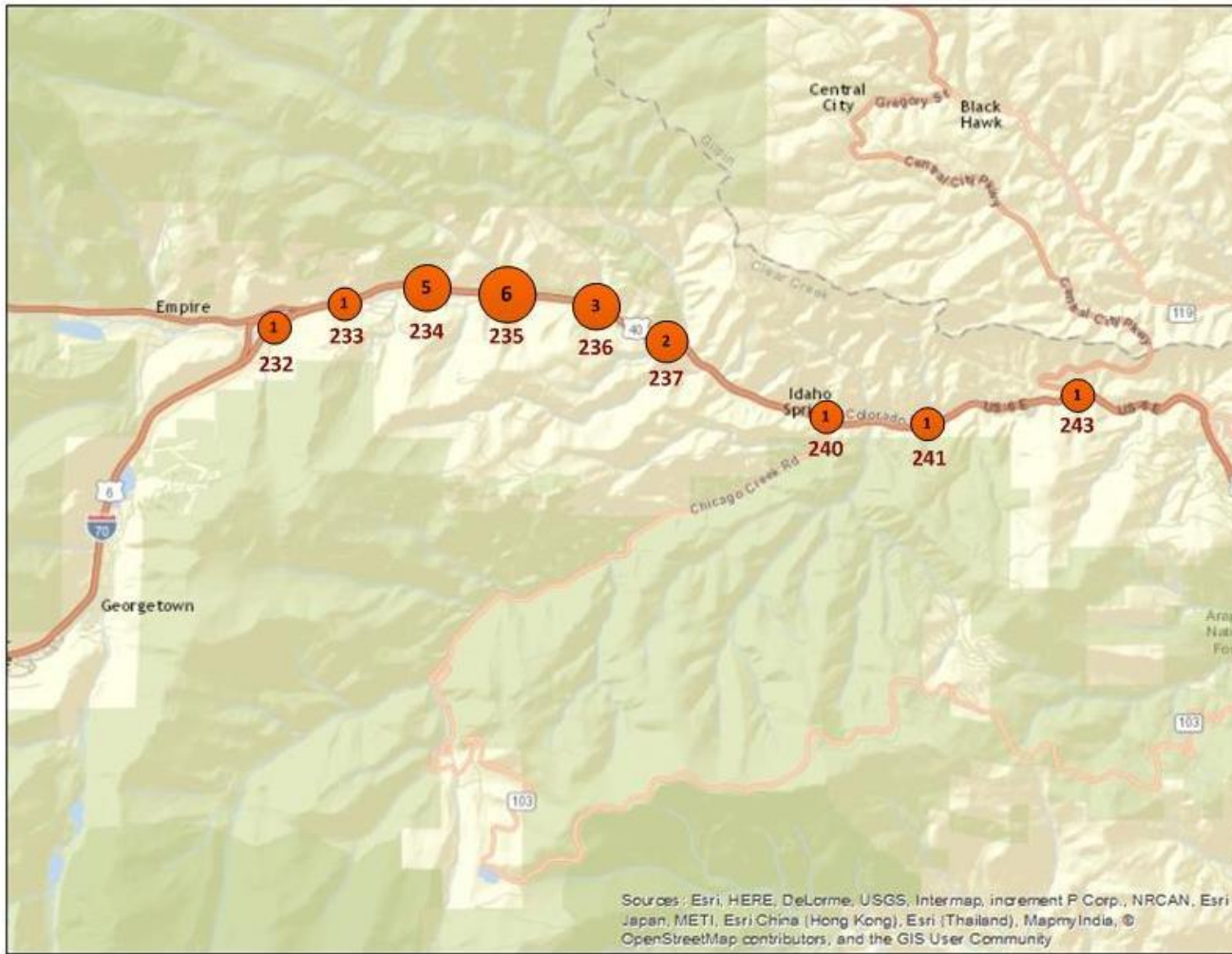
- ❖ Average of 18 minutes between incident reported and incident cleared

- ❖ Last Year: Average of 22 minutes



# I-70 Mtn. Express Lanes – Findings

## I-70 MEXL 2017 Winter Season Accidents by Mile Marker



0 0.5 1 2 3 4 Miles



# I-70 Mtn. Express Lanes – Findings

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## Tolling

### ❖ \$5 Toll Rate – 269 hours of operation (89%)

- ❖ Rate at lane opening (base rate)
- ❖ Resulted in speed differential of 10-15 mph between MEXL and GP lanes

### ❖ \$4 Toll rate – 24 hours of operation (8%)

- ❖ Tested during afternoons in late February/early March
- ❖ Reduced the speed differential between MEXL and GP lanes (to around 10 mph)

### ❖ \$7 Toll Rate – 10 hours of operation (3%)

- ❖ Tested during afternoons in January
- ❖ Increased the speed differential between MEXL and GP lanes (to around 18 mph)



## I-70 Mtn. Express Lanes – Findings

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- **Summary of Findings**

- ❖ Corridor volumes increased by **9 percent** this winter over last winter
- ❖ MEXL use increased by **111 percent** this winter
- ❖ There were **6 fewer incidents** this winter
- ❖ Incident response times were **4 minutes quicker** this winter
- ❖ For congestion mitigation a **\$5 toll rate** struck the best balance between MEXL and GP lane speed differential



## I-70 Mtn. Express Lanes – Next Steps

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- **Next steps**
  - ❖ Begin Summer operations on Memorial Day weekend
  - ❖ Amend FHWA / CDOT / HPTE MOU
  - ❖ Finalize automated weekly report format in COGNOS



## I-70 Mtn. Express Lanes

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- **Questions??**



# I-70 Mtn. Express Lanes – Summary

Date	Express Lane Volume	General Purpose Lanes Volume	Total Corridor Volume	Total Corridor Volume/ATR	Peak Hour	Peak Hour Volume	MEXL Peak Hour Speed	GP Lanes Peak Hour Speed	Time Opened	Time Closed	Notes
<b>Winter Season 2016/17</b>											
Sunday, January 1, 2017	2,991	32,907	35,898	35,898	12PM-1PM	3,588	67 MPH	55 MPH	9:00 AM	6:30 PM	No Incidents
Monday, January 2, 2017	4,509	35,265	39,774	39,774	12PM-1PM	3,619	66 MPH	53 MPH	9:00 AM	7:10 PM	Two incidents
Friday, January 6, 2017	907	19,831	20,738	20,738	5PM-6PM	2,321	40 MPH	12:00 AM	3:45 PM	6:00 PM	No Incidents
Saturday, January 7, 2017	3,011	27,076	30,087	30,087	4PM-5PM	3,288	52 MPH	37 MPH	9:00 AM	7:45 PM	Two incidents
Sunday, January 8, 2017	2,313	26,904	29,217	29,217	2PM-3PM	3,103	63 MPH	52 MPH	9:00 AM	8:00 PM	No Incidents
Saturday, January 14, 2017	1,537	24,946	26,501	26,501	4PM-5PM	3,165	54 MPH	35 MPH	9:00 AM	6:15 PM	One Incident
Sunday, January 15, 2017	2,888	30,672	33,560	33,560	1PM-2PM	3,419	65 MPH	64 MPH	9:00 AM	7:00 PM	One incident
Monday, January 16, 2017	3,293	28,937	32,230	32,230	1PM-2PM	3,364	58 MPH	47 MPH	11:00 AM	6:00 PM	One Incident
Saturday, January 21, 2017	1,735	25,187	26,922	26,922	5PM-6PM	3,191	58 MPH	38 MPH	9:00 AM	7:00 PM	One incident
Sunday, January 22, 2017	5,930	34,320	40,252	40,252	2PM-3PM	3,733	59 MPH	41 MPH	9:00 AM	8:00 PM	No Incidents
Saturday, January 28, 2017	2,285	19,561	21,846	33,429	3PM-4PM	3,104	62 MPH	44 MPH	9:00 AM	7:30 PM	One Incident
Sunday, January 29, 2017	6,804	17,225	24,029	49,947	3PM-4PM	2,975	59 MPH	42 MPH	9:00 AM	8:30 PM	No Incidents
Saturday, February 4, 2017	1,708	26,258	27,966	27,966	4PM-5PM	3,339	60 MPH	39 MPH	10:00 AM	6:30 PM	No Incidents
Sunday, February 5, 2017	4,815	33,895	38,674	38,674	2PM-3PM	3,677	55 MPH	45 MPH	9:00 AM	7:00 PM	One Incident
Saturday, February 11, 2017	1,036	25,654	26,690	26,690	3PM-4PM	3,181	68 MPH	58 MPH	9:00 AM	7:00 PM	No Incidents
Sunday, February 12, 2017	5,585	35,404	40,989	40,989	1PM-2PM	3,671	66 MPH	53 MPH	9:00 AM	9:00 PM	No Incidents
Saturday, February 18, 2017	377	14,001	14,378	28,563	2PM-3PM	1,832	60 MPH	69 MPH	9:00 AM	6:00 PM	No Incidents
Sunday, February 19, 2017	2,156	23,804	25,960	34,673	2PM-3PM	3,353	68 MPH	58 MPH	9:00 AM	6:30 PM	Two incidents
Monday, February 20, 2017	4,738	32,915	37,653	37,653	12PM-1PM	3,620	60 MPH	43 MPH	9:00 AM	6:15 PM	Three incidents
Saturday, February 25, 2017	1,639	27,305	28,944	28,944	2PM-3PM	2,971	69 MPH	62 MPH	9:00 AM	6:20 PM	No Incidents
Sunday, February 26, 2017	6,041	34,264	40,305	40,305	2PM-3PM	3,669	60 MPH	43 MPH	9:00 AM	7:15 PM	No Incidents
Saturday, March 4th, 2017	1,996	27,623	29,619	29,619	5PM-6PM	3,162	59 MPH	37 MPH	9:00 AM	7:00 PM	No Incidents
Sunday, March 5th, 2017	6,388	33,920	40,308	40,308	1PM-2PM	3,753	58 MPH	39 MPH	9:00 AM	7:00 PM	Two incidents
Saturday, March 11th, 2017	810	26,484	27,294	27,294	4PM-5PM	3,025	67 MPH	57 MPH	9:00 AM	7:00 PM	Two incidents
Sunday, March 12th, 2017	2,532	31,827	34,359	34,359	12PM-1PM	3,427	68 MPH	55 MPH	9:00 AM	6:00 PM	No Incidents
Saturday, March 18th, 2017	822	30,581	31,403	31,403	4PM-5PM	2,984	63 MPH	47 MPH	9:00 AM	6:00 PM	Four Incidents
Sunday, March 19th, 2017	1,880	33,289	35,169	35,169	4PM-5PM	2,946	74 MPH	60 MPH	9:00 AM	6:30 PM	No Incidents
Saturday, March 25th, 2017	476	14,819	15,295	29,500	4PM-5PM	2,968	69 MPH	61 MPH	9:00 AM	6:00 PM	No Incidents
Sunday, March 26th, 2017	1,591	30,844	32,724	32,724	2PM-3PM	3,224	71 MPH	60 MPH	9:00 AM	6:00 PM	No Incidents
Saturday, April 1st, 2017	1,842	25,528	27,370	27,370	3PM-4PM	3,373	68 MPH	60 MPH	9:30 AM	6:20 PM	Three incidents
Sunday, April 2nd, 2017	3,801	33,683	37,484	37,484	1PM-2PM	3,427	62 MPH	43 MPH	9:00 AM	7:30 PM	One incident
Saturday, April 8th, 2017	258	24,046	24,304	24,304	3PM-4PM	2,583	62 MPH	69 MPH	9:00 AM	5:30 PM	No Incidents
Sunday, April 9th, 2017	655	28,096	28,751	28,751	11AM-12PM	3,057	69 MPH	66 MPH	9:00 AM	6:00 PM	No Incidents
Sunday, April 16th, 2017	497	27,716	28,213	28,213	4PM-5PM	2,623	68 MPH	68 MPH	10:00 AM	6:30 PM	No Incidents
Sunday, April 23rd, 2017	134	27,991	28,125	28,125	3PM-4PM	2,750		61 MPH	4:45 PM	6:00 PM	No Incidents