

October 2017

Monthly Operations Report



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INTRODUCTION

Pursuant to Schedule 6, Section 1.8.2(a) of the Concession Agreement, Plenary Roads Denver (“PRD”) is required to submit a monthly report covering all essential statistics related to the Managed Lanes. The following data covers the month of October 2017. Operationally, October was a positive month. Several routine maintenance tasks were completed, there were minimal incidents to maintained elements, and traffic volumes were consistent with expectations.

1.0 VOLUMES AND LANE USAGE

Over the last several months as more commuters use the transponders for either ExpressToll™ (AVI) or HOV travel, License Plate (LPT) transactions have consistently decreased as a percentage of total traffic volume. The total monthly gantry traffic volume for October 2017 in the I-25 Central and US 36 Managed Lanes was 304,356 and 1,378,121, respectively.

The table below provides the monthly summary for each Managed Lanes roadway, along with a detailed breakdown of weekday volumes. For reference, the AM Peak Period is considered to be weekdays from 6:45 am – 8:45 am. The PM Peak Period is considered to be, weekdays, from 4:15pm – 5:45pm. It should be noted, that the I-25 Managed Lane traffic reflects traffic counts from a single gantry and US 36 Managed Lane counts reflect fourteen gantries, seven gantries in each direction. Therefore, US 36 data will indicate far greater traffic counts that are not comparative to those of I-25.

The following charts depict the distribution of traffic by type (Figure 1) and the daily traffic counts (Figure 2) and for the month.

Traffic Summary (US 36)						
	AVI	LPT	HOV	Non-Rev & Hybrid	Total	Hybrid
Total Monthly Traffic	786,245	349,143	196,718	46,015	1,378,121	6,915
Maximum Weekday Traffic	37,041	16,319	11,562	2,077	61,877	339
Average Weekday Traffic	32,988	13,651	6,196	1,954	54,789	289
Average Hourly AM Peak Traffic	5,033	1,764	740	249	7,786	N/A
Average Hourly PM Peak Traffic	5,381	2,080	849	248	8,558	N/A

Traffic Summary (I-25C)						
	AVI	LPT	HOV	Non-Rev & Hybrid	Total	Hybrid
Total Monthly Traffic	151,385	91,584	46,991	14,396	304,356	1,986
Maximum Weekday Traffic	7,438	4,686	2,008	666	14,126	98
Average Weekday Traffic	6,487	3,838	1,757	611	12,082	86
Average Hourly AM Peak Traffic	959	582	268	86	1,809	N/A
Average Hourly PM Peak Traffic	816	445	227	85	1,488	N/A

Table 1 – Monthly Traffic Summaries

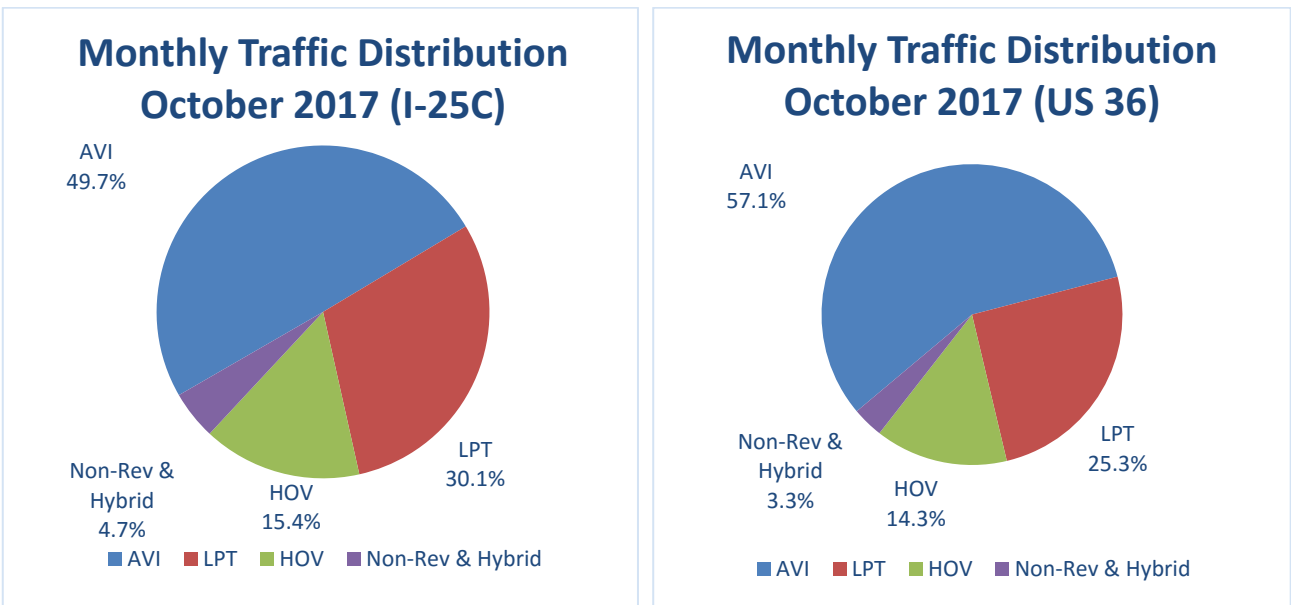
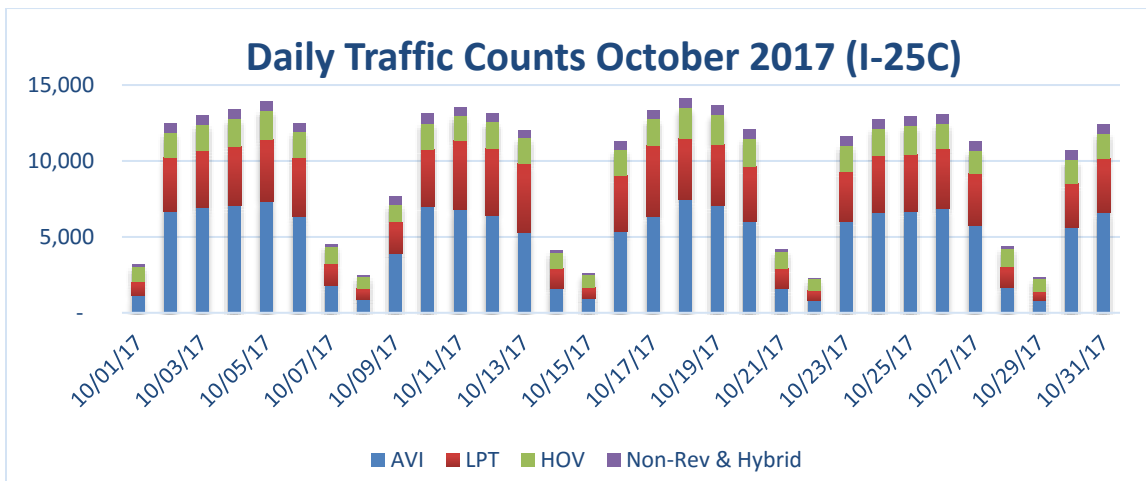


Figure 1 – Monthly Traffic Distribution



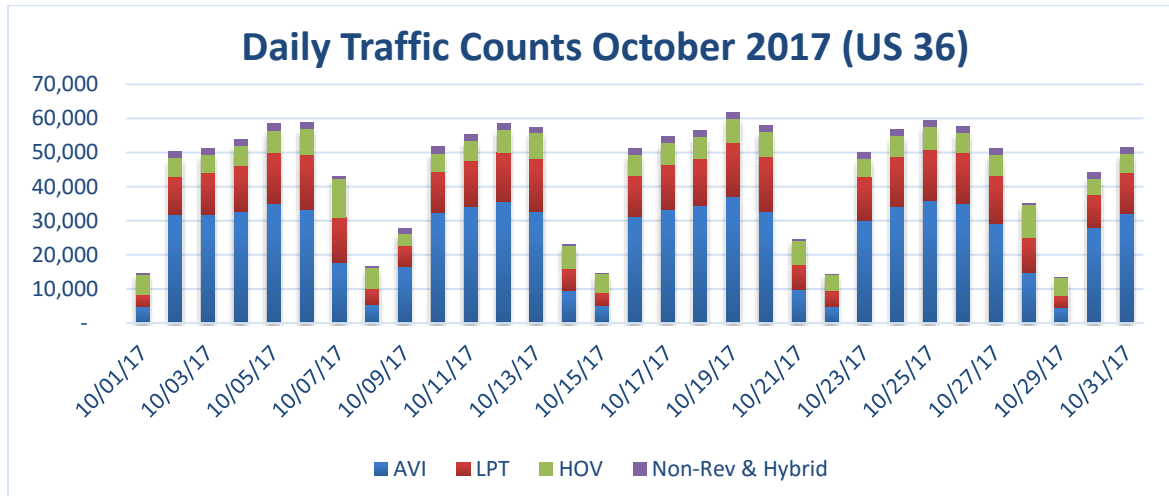


Figure 2 – Daily Traffic Counts

2.0 REVENUES

During the month of October 2017, PRD collected \$758,825 and \$710,563 from users of the I-25 Central and US36 Managed Lanes, respectively. For purposes of this report, revenues are recognized at the time of collection, which is typically sometime after they have been incurred for those customers who are billed based on their license plate. For example, if a single-occupant vehicle uses the lanes in October but pays in January, the associated revenue is attributed to January.

3.0 OPERATIONAL INCIDENTS, ISSUES, AND CLOSURES

The project had numerous routine debris removals, lighting incidents, guardrail incidents, sign incidents, and graffiti control during the month. The routine lighting, guardrail, roadway markings and sign incidents are all planned for repair within the allowable response period and several previously identified lighting incidents were repaired. All incidents were responded to and rectified within the allowable timeframes.

Date	Start	Stop	Duration
July 7, 2017	16:45	17:00	0:15
August 2, 2017	07:34	08:22	0:48
August 3, 2017	16:23	17:05	0:42
August 4, 2017	07:23	07:45	0:22
August 9, 2017	08:45	09:43	0:58
August 11, 2017	07:12	07:45	0:33
August 30, 2017	18:00	19:00	1:00

September 6, 2017	16:13	17:04	0:51
September 8, 2017	08:25	09:15	0:50
September 11, 2017	11:00	12:23	1:23
September 15, 2017	18:19	19:24	1:05
September 29, 2017	15:44	16:40	0:56
October 4, 2017	07:34	08:06	0:32
October 12, 2017	15:19	15:42	0:22
October 20, 2017	14:15	15:06	0:51
October 23, 2017	18:03	18:46	0:43
Total			12 hours 11 minutes
Remaining Closure Hours Available (Ref: CA 29.7)			0 hours 0 minutes

Table 2 – Managed Lanes Closures to Date

The table below provides a listing of ETCS items recorded this month, consistent with Appendix 6-2 of Schedule 6.

Element ID	Cat	Element	Performance Item	PRD Notified	Contractual Cure Period	Cure Achieved
None						

Table 3 – ETCS Issues per CA Schedule 6 Appendix 6-2

The table below provides a status of all Noncompliance categories in accordance with paragraph 1.2 of Schedule 10.

Non-compliance Location	Nature	Cause	Cure Date	Uncured Non-compliance Point	Unexpired Non-compliance Point	365 Day Expiration Date	1095 Day Expiration Date
Promenade West Toll Point	Incorrect toll schedule	Incorrect Toll Schedule was applied during a software update on 3/7/16	3/16/16 (Period II) Customer Accounts Corrected	0	3	3/16/17	3/16/19

Table 4 – Status of Noncompliance Categories

4.0 MEAN TIME BETWEEN FAILURE (MTBF) AND MEAN TIME TO REPAIR (MTTR)

Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR) data is provided in the table below. Only Maintained Elements that were repaired during the reporting period and had a failure type breakdown are listed in the table. We consider a breakdown to be a failure when the element cannot be used for its intended purpose until repaired.

Maintained Element	Mean Time Between Failure (MTBF) (Hours)	Mean Time To Repair (MTTR) (Hours)
None	N/A	N/A

Table 5 – Mean Time Between Failure & Mean Time To Repair

5.0 HYBRID UTILIZATION

Total Hybrid Trips	
I-25 Central	1,986
US 36	6,915

Table 6 – Hybrid Utilization

Fuel-efficient “Hybrid” vehicles are permitted to access the Express Lanes free of charge, regardless of occupant numbers, provided that they have obtained a permit from CDOT, obtained a Hybrid transponder from E-470, and display an E-470 Hybrid decal on the vehicle’s windshield.

OPERATIONS AND
MAINTENANCE
MONTHLY REPORT
OCTOBER 2017

US 36 and I-25 Express
Lanes Project

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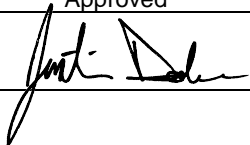


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OPERATIONS AND MAINTENANCE – MONTHLY REPORT
OCTOBER 2017
US 36 and I-25 Express Lanes Project

Revision	Date	Approved
Rev. 0	11/08/2017	

This report titled *Operations and Maintenance Monthly Report, October 2017* has been prepared by Broadspectrum for the exclusive use of Plenary Roads Denver, LLC (PRD). No other party is an intended beneficiary of this report or the information, opinions, and conclusions contained herein. Any use by any party other than PRD of any of the information, opinions, or conclusions is the sole responsibility of said party. The use of this report shall be at the sole risk of the user regardless of any fault or negligence of PRD or Broadspectrum.

The information and analyses contained herein have been completed to a level of detail commensurate with the objectives of the assignment and in light of the information made available to Broadspectrum at the time of preparation. This report and its supporting documentation have been reviewed and/or checked for conformance with industry-accepted norms. To the best of the information and belief of Broadspectrum, the information presented in this report is accurate to within the limitations specified herein.

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The O&M Monthly Report contains all relevant information for the month of October 2017. Broadspectrum continues ongoing and preventive maintenance activities for the I-25 and US36 Managed Lanes Project.

Broadspectrum's Commitment to Safety

Broadspectrum conducted weekly toolbox talk meetings during the month. The purpose of the tool box talks is to cover important safety items that relate to the project such as near misses, "better ways" as to how safety is conducted for the Project, and discussion on safety procedures for maintenance activities. In addition to the toolbox talks, Broadspectrum conducts a weekly progress meeting. This is a forum for feedback from staff on Operations, Incident Response, and Maintenance activities.

Toolbox Talks this month included:

- Smoking Policy
- Responsibility vs Accountability
- Safety Leadership 1
- Safety Leadership 2
- Slips, Trips, Falls

A. Summary of the Planned Maintenance Activities for the Upcoming Month – November 2017

Broadspectrum has identified the upcoming planned maintenance activities as described in Table 1.7.1.3 of The Maintenance Management Plan. These activities include preventative and routine maintenance in order to successfully operate and maintain the Project. A listing of the planned maintenance activities for the month of November 2017 is included below.

Fig. A-1 Planned Maintenance Activities for November 2017

X – Indicates the day the task is planned.

Performance Standard Identification Number (Table 6.1)	Work Activity-Description	Frequency	Nov-17																													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
			W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T
ML-1	MAINTENANCE PATROL	Daily	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	X					X	X	X	X
ML-1	FLEXIBLE PAVEMENT OBSERVATION / REPAIR	F-52		X					X							X							X								X	
ML-1	RIGID PAVEMENT OBSERVATION / REPAIR	F-52	X					X							X							X								X		
ML-10	CRACK SEALING	F-1	X	X	X				X	X	X																					
ML-4	DELINEATORS & MARKERS OBSERVE / CLEAN / REPAIR	F-12		X												X												X				
ML-2	DRAINAGE (INLET) OBSERVE/ CLEAN / REPAIR	F-12							X													X										
ML-2	DRAINAGE (PIPE/CULVERT) OBSERVE / CLEAN / RPR	F-12														X																
ML-6	SIGN CLEANING	F-1							X																							
ML-6	SIGN OBSERVATION / REPAIR	F-52		X						X					X							X							X			
ML-8	STREET LIGHTING OBSERVATION /REPAIR	F-52	X					X							X							X							X			
ML-8	ELECTRICAL SUPPLY INSPECTION / REPAIR	F-12														X																
ML-8	ACCESS PANEL OBSERVATION / REPAIR	F-12								X																						
ML-10	HERBICIDE & WEED CONTROL MAINTENANCE	F-52		X							X						X						X								X	
ML-12	GRAFFITI OBSERVATION / REMOVAL	F-52	X					X							X							X						X				
ML-14	MECHANICAL ROAD SWEEPING	F-12													X	X	X	X	X													
ML-14	LITTER OBSERVATION / REMOVAL	Daily	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	X				X	X	X	X	
ML-15	NODE BUILDING 2 MAINTENANCE	F-1														X																
ML-15	SAND STORAGE DOME MAINTENANCE	F-1								X																						
ML-15	LIQUID STORAGE FACILITY MAINTENANCE	F-1																				X										
	REVERSIBLE LANE OPERATIONS	Daily	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	X				X	X	X	X	

Frequency of Activity:

- Daily – Daily Activity
- F-4 – Quarterly Activity
- F-52 – Weekly Activity
- F-2 – Semi-Annual Activity
- F-12 – Monthly Activity
- F-1 – Annual Activity



B. Summary of Performed and Completed Maintenance Activities

Fig. B-1 Performed and Complete Maintenance Activities for October 2017,

X Indicates the day of the month that the task was completed.

Performance Standard Identification Number (Table 6.1)	Work Activity-Description	Frequency	Oct-17																														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
ML-1	MAINTENANCE PATROL	Daily		X	X	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X
ML-1	FLEXIBLE PAVEMENT OBSERVATION / REPAIR	F-52		X						X							X								X						X		
ML-1	RIGID PAVEMENT OBSERVATION / REPAIR	F-52			X						X	X						X								X	X	X				X	
ML-10	CRACK SEALING	F-1									X	X	X											X	X	X	X						
ML-4	DELINEATORS & MARKERS OBSERVE / CLEAN / REPAIR	F-12			X	X	X				X	X												X	X	X							
ML-2	DRAINAGE (INLET) OBSERVE/ CLEAN / REPAIR	F-12		X	X					X	X	X																					
ML-2	DRAINAGE (PIPE/CULVERT) OBSERVE / CLEAN / RPR	F-12			X																												
ML-6	SIGN CLEANING	F-1																		X													
ML-6	SIGN OBSERVATION / REPAIR	F-52				X	X	X					X								X	X			X	X		X			X	X	
ML-8	STREET LIGHTING OBSERVATION /REPAIR	F-52						X						X								X							X				
ML-8	ELECTRICAL SUPPLY INSPECTION / REPAIR	F-12			X																												
ML-8	ACCESS PANEL OBSERVATION / REPAIR	F-12				X																											
ML-10	HERBICIDE & WEED CONTROL MAINTENANCE	F-52		X	X	X	X			X							X							X							X		
ML-12	GRAFFITI OBSERVATION / REMOVAL	F-52			X						X								X					X	X							X	
ML-14	MECHANICAL ROAD SWEEPING	F-12															X	X	X	X	X												
ML-14	LITTER OBSERVATION / REMOVAL	Daily		X	X	X	X	X		X	X	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	
	REVERSIBLE LANE OPERATIONS	Daily		X	X	X	X	X		X	X	X	X	X			X	X	X	X	X			X	X	X	X	X			X	X	

Fig. B-2 Work Accomplished This Month

Activity	Actual Work
153 Concrete Pavement Surface Rpr (YD2)	3.5
157 Hand Crack Sealing Rigid Pavement (LF)	2,200
202 Clean Drainage Structures (EA)	37
218 Debris in Roadway (HR)	7
218 Litter Barrel Trash Cleanup (YD3)	35
220 Sweeping (Mech) (MI)	108
222 Sweeping - Hand (HR)	21
252 Vegetation Machine Mowing (ACR)	5
254 Veg Cntrl: Hand/Chem Weeding (HR)	10
301 Misc Sign Maint (EA)	8
304 Del Post Maint (EA)	68
307 Directional Gate Maint (EA)	7
308 Pavement Striping-Machine (MI)	55
314 Reversible Lane Ops (HR)	284
329 Courtesy Assistance (HR)	363
402 Snow Plowing & Materials (MI)	2,505
540 Graffiti Removal (SF)	12

C. Summary of Planned Maintenance that was Not Completed for the Month

Broadspectrum completed all scheduled maintenance activities for the period of October, 2017. Frequencies and/or actual date of the month of some activities may have been adjusted based on actual conditions.

D. Summary of the Maintenance Activities and Results Performed for the Month Beyond Planned Maintenance

A summary of unplanned maintenance activities provided below:

Snow and Ice Control: None

Courtesy Patrol: None

Hazardous Materials Incidents: None

E. Operating Contractor's Incident Response Logs Related to Maintenance Activities

This section provides a summary of Broadspectrum's performance related to the Performance and Measurement Criteria listed in Appendix 6-1.1 of the Operating Contract.

The table below provides a listing of items recorded this month:

Element Category	Description	Location	BRS Notified	Response to Defects		
				Category 1		Category 2
				Hazard Mitigation	Permanent Remedy	Permanent Repair
GP 4.1	Pavement Striping (Paint Worn Pavement Markings)	US36 MP 39.0-57.1	5/17/2017 11:00:00	N/A	N/A	Reqd: 6 Months Resp: 10/24/2017 05:00 Actual: 5.32 Months
GP 4.1	Pavement Striping (Paint Worn Pavement Markings)	I-25 MP 212.1-217.2	5/17/2017 11:00:00	N/A	N/A	Reqd: 6 Months Resp: 10/24/2017 05:00 Actual: 5.32 Months
GP 5.2	Attenuator (Impact Damage)	US36 MP 54.64 EB	9/18/2017 23:50:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP 1.1	Debris (Reported Debris, Nothing Found)	US36 MP 48.00 WB	10/7/2017 11:37:00	Reqd: 1 Hours Resp: 10/7/2017 11:53 Actual: 0.26 Hours	N/A	N/A
GP 1.1	Debris (Reported Debris, Nothing Found)	US36 MP 39.00 EB	10/9/2017 11:59:00	Reqd: 1 Hours Resp: 10/9/2017 12:28 Actual: 0.48 Hours	N/A	N/A
GP 1.1	Debris (Cleared Trash Can from lanes)	US36 MP 39.60 EB	10/10/2017 13:12:00	Reqd: 1 Hours Resp: 10/10/2017 13:47 Actual: 0.58 Hours	N/A	N/A
GP 1.1	Debris (Cleared Metal from lanes)	US36 MP 56.70 WB	10/11/2017 10:50:00	Reqd: 1 Hours Resp: 10/11/2017 11:15 Actual: 0.41 Hours	N/A	N/A
GP 1.1	Debris (Cleared Tree Branch from lanes)	US36 MP 43.10 EB	10/11/2017 07:25:00	Reqd: 1 Hours Resp: 10/11/2017 07:50 Actual: 0.41 Hours	N/A	N/A
GP 1.1	Debris (Cleared Couch Cushion from lanes)	US36 MP 46.00 WB	10/14/2017 13:55:00	Reqd: 1 Hours Resp: 10/14/2017 14:30 Actual: 0.58 Hours	N/A	N/A
GP 1.1	Debris (Cleared Debris from lanes)	US36 MP 45.42 EB	10/19/2017 17:56:00	Reqd: 1 Hours Resp: 10/19/2017 18:10 Actual: 0.23 Hours	N/A	N/A
GP 1.1	Debris (Cleared Cone from lanes)	US36 MP 40.20 EB	10/23/2017 08:00:00	Reqd: 1 Hours Resp: 10/23/2017 08:50 Actual: 0.83 Hours	N/A	N/A
GP 12.1	Graffiti (Removed Graffiti from Barrier)	US36 MP 57.00 WB	10/23/2017 09:00:00	N/A	Reqd: 10 Days Resp: 10/23/2017 23:00 Actual: 0.58 Days	N/A
GP 1.1	Debris (Cleared Insulation from lanes)	US36 MP 42-42.40 EB	10/23/2017 10:23:00	Reqd: 1 Hours Resp: 10/23/2017 11:04 Actual: 0.68 Hours	N/A	N/A
GP 1.1	Debris (Cleared Car Parts from lanes)	US36 MP 50.07 EB	10/26/2017 17:02:00	Reqd: 1 Hours Resp: 10/26/2017 17:17 Actual: 0.24 Hours	N/A	N/A
GP 1.1	Debris (Cleared Car Parts from lanes)	US36 MP 52.80 EB	10/26/2017 17:42:00	Reqd: 1 Hours Resp: 10/26/2017 18:05 Actual: 0.38 Hours	N/A	N/A
GP 1.1	Debris (Cleared Car Parts from lanes)	I-25 MP 215.95	10/29/2017 05:45:00	Reqd: 1 Hours Resp: 10/29/2017 06:40 Actual: 0.91 Hours	N/A	N/A

All items were completed within the required response time. Items that are *In Progress* are still within the allowed response time.

F. Detailed Results of All Inspections, Assessments, and Testing Activities

During this reporting period there were no special inspections, assessments, or testing results outside normal operating condition.

G. Monthly Toll System Performance Reports

Toll system operated within proposed parameters per Broadspectrum's observations.

H. Preventative Maintenance Plan and Progress

Preventative Maintenance work is contingent on Initial Works Package implementation.

I, J. Mean Time between Failure (MTBF), Mean Time To Repair (MTTR)

No Maintained Elements experienced a failure type breakdown this month. Broadspectrum considers a breakdown to be a failure when the element cannot be used for its intended purpose until repaired.