

# August 2020

## 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 August 2020. Operationally, August 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 August 2020 in the I-25 Central and US 36 Managed Lanes was 139,262 and 579,232, 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	267,549	181,324	125,033	5,326	579,232	-
Maximum Weekday Traffic	12,748	9,085	5,081	281	26,527	-
Average Weekday Traffic	10,521	6,785	3,980	213	21,499	-
Average Hourly AM Peak Traffic	791	430	269	18	1,508	N/A
Average Hourly PM Peak Traffic	1,589	990	525	20	3,124	N/A

Traffic Summary (I-25C)						
	AVI	LPT	HOV	Non-Rev & Hybrid	Total	Hybrid
Total Monthly Traffic	54,693	52,223	29,864	2,482	139,262	-
Maximum Weekday Traffic	2,823	2,920	1,197	114	6,997	-
Average Weekday Traffic	2,281	2,164	1,102	96	5,547	-
Average Hourly AM Peak Traffic	260	266	130	7	656	N/A
Average Hourly PM Peak Traffic	282	258	138	8	678	N/A

Table 1 – Monthly Traffic Summaries

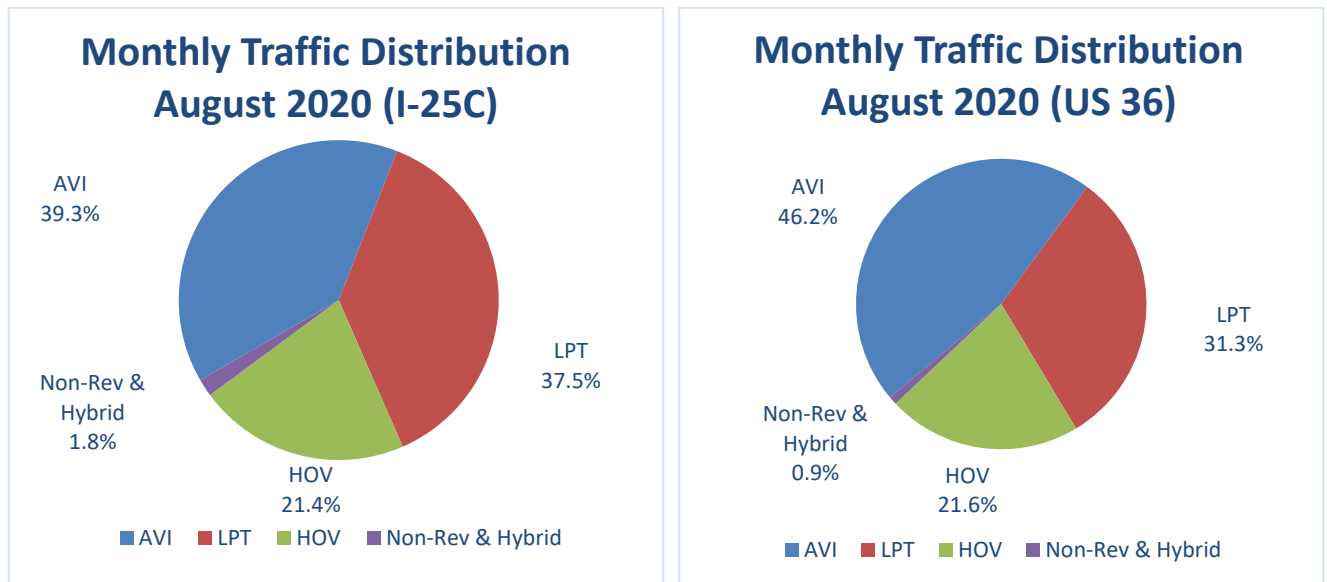
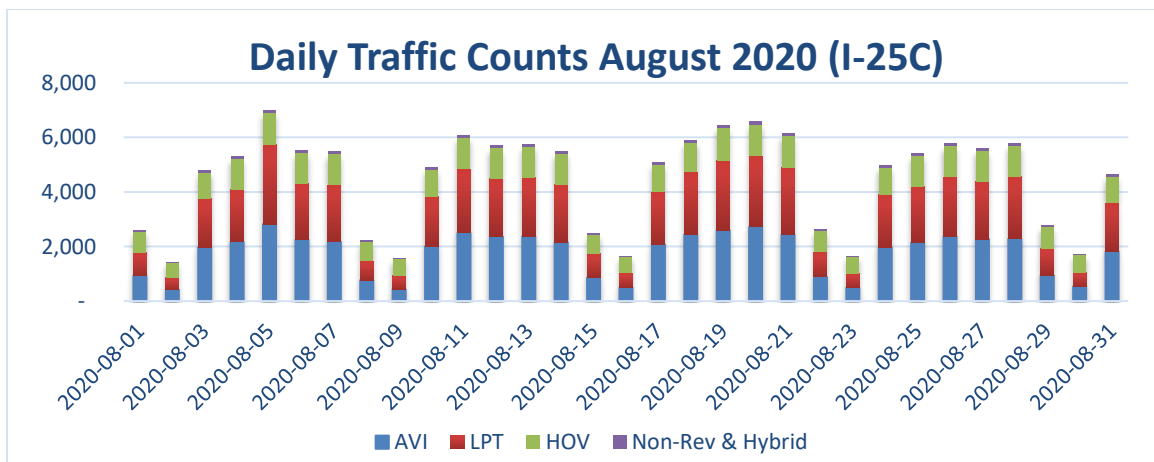


Figure 1 – Monthly Traffic Distribution



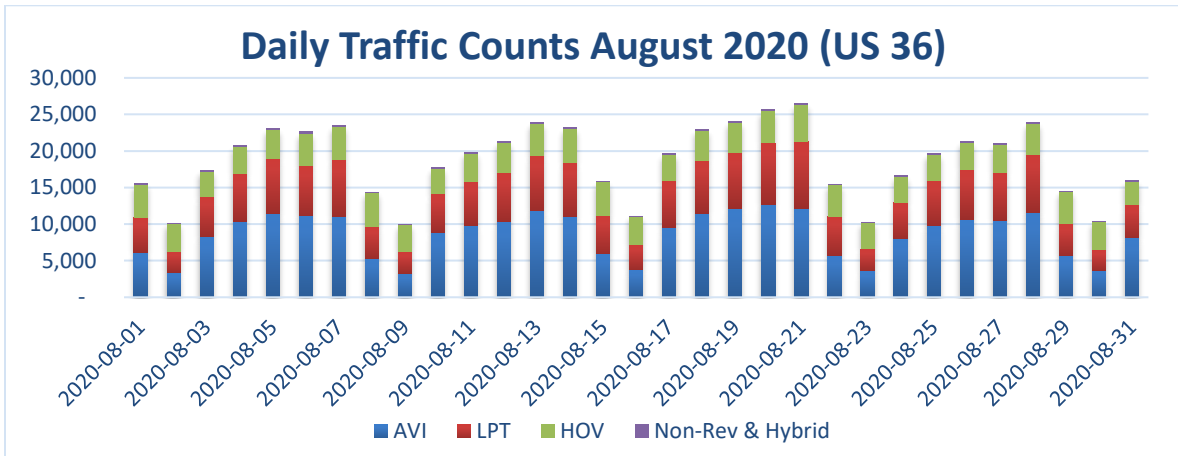


Figure 2 – Daily Traffic Counts

## 2.0 REVENUES

During the month of August 2020, PRD collected \$354,111 and \$342,330 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 27, 2020	10:45	11:27	0:42
Total			0 hours 42 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
None							

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	0
US 36	0

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  
AUGUST 2020

US 36 and I-25 Express  
Lanes Project

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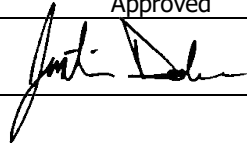
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## OPERATIONS AND MAINTENANCE – MONTHLY REPORT AUGUST 2020 US 36 and I-25 Express Lanes Project

Revision	Date	Approved
Rev. 0	09/07/2020	

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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 Ferrovial Services 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 Ferrovial Services, 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 August 2020. Ferrovial Services continues ongoing and preventive maintenance activities for the I-25 and US36 Managed Lanes Project.

### Ferrovial Services Commitment to Safety

Ferrovial Services conducted weekly toolbox talk meetings during the month. The purpose of the toolbox 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, Ferrovial Services 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:

- Five Keys to Defensive Driving Truck Safety
- Maneuvering in Reverse
- Temporary Traffic Control
- Stress at Work & Home

### A. Summary of the Planned Maintenance Activities for the Upcoming Month – September 2020

Ferrovial Services 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 September 2020 is included below.

**FIG. A-1 Planned Maintenance Activities for September 2020**

*X – Indicates the day the task is planned.*

Performance Standard Identification Number (Table 6.1)	Work Activity-Description	Frequency	Sep-20																													
			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
			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	W
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
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			X	X	X	X	X			X									
ML-1	CRACK SEALING	F-1																				X	X	X	X	X			X	X	X	
ML-4	DELINEATORS & MARKERS OBSERVE / CLEAN /	F-12							X																							
ML-2	DRAINAGE STRUCTURE (INLET) INSPECTION	F-1							X																							
ML-2	DRAINAGE (INLET) OBSERVE/ CLEAN /	F-12	X																													
ML-2	DRAINAGE (PIPE/CULVERT) OBSERVE	F-12	X																													
ML-5	GUARDRAIL, SAFETY BARRIER									X	X																					
ML-5	IMPACT ATTENUATORS		X																													
ML-6	SIGN OBSERVATION / REPAIR	F-52				X						X								X							X					
ML-8	STREET LIGHTING OBSERVATION /REPAIR	F-52	X						X						X								X						X			
ML-8	ACCESS PANEL OBSERVATION / REPAIR	F-12							X																							
ML-10	HERBICIDE & WEED CONTROL MAINTENANCE	F-52				X						X										X					X					
ML-14	MECHANICAL ROAD SWEEPING	F-12														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	
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	X	
	GATE MAINTENANCE & REPAIR														X																	

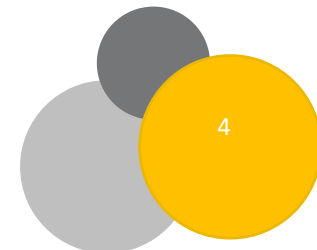
Frequency of Activity:

Daily – Daily Activity

F-4 – Quarterly Activity

F-52 – Weekly Activity

F-2 – Semi-Annual Activity



## B. Summary of Performed and Completed Maintenance Activities

*Fig. B-1 Performed and Complete Maintenance Activities for August 2020*

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

Performance Standard Identification Number (Table 6.1)	Work Activity-Description	Frequency	Aug-20																															
			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	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	
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	
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-1	CRACK SEALING	F-1									X	X	X																					
ML-2	DRAINAGE (INLET) OBSERVE/ CLEAN / REPAIR	F-12			X	X	X																											
ML-2	DRAINAGE (PIPE/CULVERT) OBSERVE / CLEAN / RPR	F-12			X	X	X																											
ML-4	DELINEATORS & MARKERS OBSERVE / CLEAN / REPAIR	F-12					X																											
ML-5	GUARDRAIL, SAFETY BARRIER							X			X	X	X	X																				
ML-6	SIGN OBSERVATION / REPAIR	F-52				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						
ML-14	MECHANICAL ROAD SWEEPING	F-12																	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
	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



*Fig. B-2 Work Accomplished This Month*

<b>Activity</b>	<b>Actual Work</b>
103.00 Inspection and Patrol (HR)	24
152.10 Rigid Pavement Patch (SY)	1
202.00 Drain Str Maint (EA)	12
218.00 Litter Removal (CY)	63
218.98 Graffiti Removal (SF)	180
218.99 Roadway Hzrd Debris (CY)	5.25
220.00 Sweeping Machine (MI)	175
252.00 Veg Control (MI)	35
254.00 Veg Mow Hand (HR)	17.5
256.00 Veg Control Pesticd (ACR)	7
260.00 Tree Plant Removal Trim (EA)	12
302.00 Sign Single Post Maint (EA)	7
304.00 Delineator Maint (EA)	149
307.00 Concrete Barrier Maint (LF)	179,400
314.00 Reversible Lane Operations (HR)	294
316.00 Attenuator Maint (EA)	1
329.00 Courtesy Assist (HR)	409.5

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

Ferrovial Services completed all scheduled maintenance activities for the period of August. 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 Ferrovial Services 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	Notified	Response to Defects		
				Category 1		Category 2
				Hazard Mitigation	Permanent Remedy	Permanent Repair
GP6.1	Sign (Impact Damage)	MP 54.80 EB	6/15/2020 08:03:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP5.1	Guardrail (Impact Damage)	MP 54.70 WB	6/23/2020 22:39:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP5.1	Guardrail (Impact Damage)	MP 43.30 EB	7/20/2020 16:46:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP5.2	Attenuator (Impact Damage)	MP 43.20 WB	7/20/2020 16:46:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP6.1	Sign (Impact Damage)	MP 57.10 WB	7/24/2020 01:15:00	N/A	N/A	Reqd: 6 Months Resp: 8/10/2020 19:28 Actual: 0.59 Months
GP1.1	Debris (Removed Mattress From Lanes)	MP 48.00 EB	7/28/2020 13:03:00	Reqd: 1 Hours Resp: 7/28/2020 13:48 Actual: 0.75 Hours	N/A	N/A
GP6.1	Sign (Impact Damage)	MP 48.20 WB	7/28/2020 16:36:00	N/A	N/A	Reqd: 6 Months Resp: 7/28/2020 19:21 Actual: 0.01 Months
GP6.1	Sign (Impact Damage)	MP 52.20 EB	7/28/2020 13:35:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
ML5.2	Attenuator (Impact Damage)	MP 56.10 EB	8/3/2020 09:10:00	N/A	N/A	Reqd: 6 Months Resp: 8/3/2020 21:10 Actual: 0.01 Months
GP6.1	Sign (Impact Damage)	MP 57.2 WB	8/5/2020 00:17:00	N/A	N/A	Reqd: 6 Months Resp: -- Actual: In Progress
GP1.1	Debris (Removed Debris From Lanes)	MP 37.40 WB	8/7/2020 13:09:00	Reqd: 1 Hours Resp: 8/7/2020 13:27 Actual: 0.29 Hours	N/A	N/A
GP6.1	Sign (Straightened Sign)	MP 37.80 WB	8/10/2020 18:33:00	N/A	N/A	Reqd: 6 Months Resp: 8/10/2020 18:33 Actual: 0.01 Months
GP12.1	Graffiti	MP 37.60 EB	8/10/2020 16:37:00	N/A	Reqd: 10 Days Resp: 8/10/2020 18:07 Actual: 0.06 Days	N/A
GP1.1	Debris (Removed Tire From Lanes)	MP 48.00 WB	8/11/2020 11:23:00	Reqd: 1 Hours Resp: 8/11/2020 11:45 Actual: 0.36 Hours	N/A	N/A
GP1.1	Debris (Removed Tire From Lanes)	MP 39.20 WB	8/11/2020 15:06:00	Reqd: 1 Hours Resp: 8/11/2020 15:35 Actual: 0.48 Hours	N/A	N/A
GP1.1	Debris (Removed Debris From Lanes)	MP 48.30 WB	8/12/2020 22:02:00	Reqd: 1 Hours Resp: 8/12/2020 22:16 Actual: 0.23 Hours	N/A	N/A
GP6.1	Sign (Straightened Sign)	MP 51.20 WB	8/17/2020 16:31:00	N/A	N/A	Reqd: 6 Months Resp: 8/17/2020 19:02 Actual: 0.01 Months
GP12.1	Graffiti	MP 55.50 WB	8/20/2020 16:34:00	N/A	Reqd: 10 Days Resp: 8/20/2020 18:36 Actual: 0.08 Days	N/A
GP1.1	Debris (Removed Debris From Lanes)	MP 55.40 WB	8/22/2020 13:34:00	Reqd: 1 Hours Resp: 8/22/2020 14:01 Actual: 0.49 Hours	N/A	N/A

Element Category	Description	Location	Notified	Response to Defects		
				Category 1		Category 2
				Hazard Mitigation	Permanent Remedy	Permanent Repair
GP1.1	Debris (Removed Metal Rod From Lanes)	MP 50.00 WB	8/23/2020 08:50:00	Reqd: 1 Hours Respd: 8/23/2020 09:25 Actual: 0.58 Hours	N/A	N/A
GP1.1	Debris (Removed Chair From Lanes)	MP 48.80 WB	8/24/2020 13:57:00	Reqd: 1 Hours Respd: 8/24/2020 14:36 Actual: 0.65 Hours	N/A	N/A
GP1.1	Debris (Removed Metal Parts From Lanes)	MP 47.00 WB	8/26/2020 12:19:00	Reqd: 1 Hours Respd: 8/26/2020 12:24 Actual: 0.08 Hours	N/A	N/A
GP1.1	Debris (Removed Tire From Lanes)	MP 45.00 EB	8/27/2020 09:42:00	Reqd: 1 Hours Respd: 8/27/2020 10:14 Actual: 0.53 Hours	N/A	N/A
GP5.2	Attenuator (Impact Damage)	MP 57.10 WB	8/31/2020 15:46:00	N/A	N/A	Reqd: 6 Months Respd: 8/31/2020 22:36 Actual: 0.01 Months
ML12.1	Graffiti	MP 52.70 WB	8/31/2020 16:52:00	N/A	Reqd: 10 Days Respd: 9/1/2020 01:33 Actual: 0.36 Days	N/A
GP5.2	Attenuator (Impact Damage)	MP 55.13 WB	8/31/2020 17:44:00	N/A	N/A	Reqd: 6 Months Respd: -- Actual: In Progress
GP12.1	Graffiti	MP 37.60 WB	8/31/2020 16:46:00	N/A	Reqd: 10 Days Respd: 8/31/2020 17:56 Actual: 0.04 Days	N/A
GP1.2	Pothole (Patched Pothole)	MP 51.40 WB	8/31/2020 17:45:00	N/A	N/A	Reqd: 6 Months Respd: 9/1/2020 02:03 Actual: 0.01 Months

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 Ferrovial Services 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. Ferrovial Services considers a breakdown to be a failure when the element cannot be used for its intended purpose until repaired.