

Los Angeles County  
Metropolitan Transportation Authority  
California

# OPERATIONS MONTHLY RAIL PERFORMANCE REPORT

SEPTEMBER 2016



# METRO RAIL PERFORMANCE – SEPTEMBER 2016

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## Metro Rail Scorecard Overview

Metro operates heavy rail, the Red and Purple Lines, from Union Station to North Hollywood and Union Station to Wilshire/Western. Data for Red and Purple lines are reported under Metro Red line in this report.

Metro also operates four light rail lines: Blue Line from Downtown to Long Beach, Green Line along the 105 freeway, Gold Line from Azusa to East Los Angeles, and Expo Line from Los Angeles to Santa Monica.

Metro Rail is responsible for the operation of approximately 104 heavy rail cars and 203 light rail cars carrying nearly 110 million passengers each year.

Also included in this report are Key Performance Indicators for Wayside, which is in the process of being developed.

Measurement	FY 2014	FY 2015	FY 2016	FY 2017 Target	FY 2017 YTD	FYTD Status	Jul Month	Aug Month	Sep Month
<b>Systemwide</b>									
On-Time Pullouts	99.55%	99.67%	99.63%	99.50%	99.55%	●	99.77%	99.43%	99.47%
Mean Miles Between Chargeable Mechanical Failures	28,829	34,524	30,482	27,911	26,414	●	21,532	30,440	28,862
In-Service On-time Performance	97.92%	98.39%	98.10%	98.00%	98.60%	●	98.24%	99.04%	98.52%
Service Delivery Ratio	99.12%	99.35%	99.22%	99.25%	99.39%	●	99.05%	99.53%	99.57%
Traffic Accidents Per 100,000 Train Miles	1.44	1.17	1.18	0.00	1.10	●	1.14	1.43	0.71
CPUC Reportable Accidents per 100,000 Train Miles	0.10	0.43	0.60	0.67	0.38	●	0.29	0.57	0.29
Passenger Accidents per 100,000 Boardings	0.025	0.013	0.016	0.009	0.017	●	0.032	0.020	0.000
Complaints per 100,000 Boardings	0.91	0.78	1.43	1.12	2.08	●	2.19	2.09	1.95
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours <sup>1,2</sup>	17.50	11.75	13.33	N/A	12.67	N/A	17.00	11.00	10.00
Lost Work Days per 200,000 Exposure Hours <sup>1,2</sup>	881	861	522	N/A	766	N/A	620	911	-
OSHA Injuries per 200,000 Exposure Hours <sup>1,2</sup>	10.08	7.42	8.08	N/A	9.00	N/A	12.00	6.00	-
<b>Wayside</b>									
Under Development									
Under Development									
Under Development									
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	9.28	9.07	4.77	N/A	5.77	N/A	0.00	3.66	8.11
Lost Work Days per 200,000 Exposure Hours <sup>1</sup>	179	309	148	N/A	29	N/A	50	10	-
OSHA Injuries per 200,000 Exposure Hours <sup>1</sup>	6.31	8.28	4.40	N/A	3.91	N/A	4.19	3.66	-
<b>Blue Line</b>									
On-Time Pullouts	99.37%	99.41%	99.59%	99.50%	99.36%	●	99.39%	99.44%	99.25%
Mean Miles Between Chargeable Mechanical Failures	18,731	23,716	19,240	19,572	15,235	●	15,510	14,730	15,526
In-Service On-time Performance	95.84%	97.28%	96.10%	97.00%	97.27%	●	96.71%	97.51%	97.59%
Service Delivery Ratio	98.36%	98.88%	98.41%	98.46%	98.96%	●	98.42%	99.22%	99.22%
Traffic Accidents Per 100,000 Train Miles	2.97	2.48	2.38	0.00	2.17	●	1.94	3.19	1.34
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.89	1.39	1.34	0.87	●	0.65	1.28	0.67
Passenger Accidents per 100,000 Boardings	0.058	0.034	0.016	0.006	0.031	●	0.093	0.000	0.000
Complaints per 100,000 Boardings	1.10	0.90	1.33	1.09	1.59	●	1.16	1.76	1.84
New Workers' Compensation Indemnity Claims per	17.46	15.10	15.08	15.58	16.74	●	27.08	17.94	5.38
Lost Work Days per 200,000 Exposure Hours <sup>1</sup>	990	1,622	797	786	957	●	753	1,182	-
OSHA Injuries per 200,000 Exposure Hours <sup>1</sup>	5.71	10.64	6.79	9.58	11.37	●	10.83	11.96	-

<sup>1</sup> There is a One Month lag in reporting this data

<sup>2</sup> Includes Operations, RFS and Wayside

● Green - High probability of achieving the target (on track). Meets Target at 100% or better.

● Yellow - Uncertain if the target will be achieved -- slight problems, delays or management issues. Falls below Target 70 - 99%.

● Red - High probability that the target will not be achieved -- significant problems and/or delays. Falls below Target >70%.

Measurement	FY 2014	FY 2015	FY 2016	FY 2017 Target	FY 2017 YTD	FYTD Status	Jul Month	Aug Month	Sep Month
<b>Red Line</b>									
On-Time Pullouts	99.72%	99.91%	99.79%	99.50%	100.00%	●	100.00%	100.00%	100.00%
Mean Miles Between Chargeable Mechanical Failures	63,099	85,090	94,312	112,652	82,458	●	78,500	87,317	81,557
In-Service On-time Performance	98.91%	99.13%	99.45%	99.50%	99.49%	●	99.13%	99.63%	99.72%
Service Delivery Ratio	99.57%	99.60%	99.71%	99.71%	99.76%	●	99.57%	99.79%	99.89%
Traffic Accidents Per 100,000 Train Miles	1.01	0.47	0.75	0.00	0.57	●	0.86	0.00	0.87
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.07	0.07	0.60	0.00	●	0.00	0.00	0.00
Passenger Accidents per 100,000 Boardings	0.006	0.002	0.002	0.003	0.000	●	0.000	0.000	0.000
Complaints per 100,000 Boardings	0.60	0.54	0.57	0.56	0.84	●	0.96	0.72	0.86
New Workers' Compensation Indemnity Claims per	20.22	6.20	16.43	13.29	10.00	●	6.03	13.01	11.06
*Lost Work Days per 200,000 Exposure Hours	927	649	526	556	879	●	805	958	-
*OSHA Injuries per 200,000 Exposure Hours	11.79	3.54	7.99	6.55	3.13	●	0.00	6.51	-

<b>Green Line</b>									
On-Time Pullouts	99.69%	99.32%	99.49%	99.50%	99.85%	●	100.00%	99.56%	100.00%
Mean Miles Between Chargeable Mechanical Failures	19,513	21,054	19,238	19,911	18,802	●	17,064	21,187	18,497
In-Service On-time Performance	97.85%	97.39%	98.52%	98.20%	98.34%	●	98.17%	98.91%	97.92%
Service Delivery Ratio	99.57%	99.50%	99.59%	99.62%	99.55%	●	99.39%	99.73%	99.52%
Traffic Accidents Per 100,000 Train Miles	0.49	0.21	0.42	0.00	0.83	●	0.84	1.61	0.00
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.07	0.07	0.18	0.00	●	0.00	0.00	0.00
Passenger Accidents per 100,000 Boardings	0.023	0.024	0.034	0.011	0.108	●	0.110	0.204	0.000
Complaints per 100,000 Boardings	1.15	0.88	1.53	1.30	2.20	●	2.96	1.63	2.04
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	16.51	7.32	7.18	9.27	10.61	●	20.24	11.80	0.00
*Lost Work Days per 200,000 Exposure Hours	1,299	479	228	195	1,057	●	598	1,591	-
*OSHA Injuries per 200,000 Exposure Hours	11.30	4.07	3.19	2.34	10.90	●	20.24	0.00	-

<b>Gold Line</b>									
On-Time Pullouts	99.56%	99.98%	99.68%	99.50%	99.92%	●	99.87%	99.88%	100.00%
Mean Miles Between Chargeable Mechanical Failures	45,894	44,171	40,426	51,665	28,275	●	18,010	38,914	40,000
In-Service On-time Performance	98.03%	98.56%	97.60%	97.50%	97.89%	●	98.31%	98.94%	96.34%
Service Delivery Ratio	99.03%	99.34%	99.11%	99.16%	99.23%	●	98.80%	99.35%	99.55%
Traffic Accidents Per 100,000 Train Miles	1.03	1.14	0.99	0.00	0.42	●	0.85	0.42	0.00
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.30	0.60	0.50	0.14	●	0.00	0.42	0.00
Passenger Accidents per 100,000 Boardings	0.052	0.007	0.039	0.035	0.000	●	0.000	0.000	0.000
Complaints per 100,000 Boardings	1.04	1.01	2.73	2.26	3.08	●	3.27	3.26	2.72
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	14.98	15.96	11.87	12.20	16.56	●	21.42	17.47	10.81
*Lost Work Days per 200,000 Exposure Hours	1,460	1,068	766	808	1,246	●	902	1,620	-
*OSHA Injuries per 200,000 Exposure Hours	9.12	3.83	9.29	10.07	13.95	●	16.06	11.64	-

<b>Expo Line</b>									
On-Time Pullouts	-	-	99.53%	99.50%	97.71%	●	99.64%	96.77%	96.67%
Mean Miles Between Chargeable Mechanical Failures	-	-	18,114	19,572	22,979	●	15,525	35,667	25,499
In-Service On-time Performance	98.70%	99.14%	98.61%	97.05%	99.11%	●	98.32%	99.56%	99.41%
Service Delivery Ratio	99.45%	99.64%	99.56%	99.65%	99.40%	●	99.09%	99.61%	99.50%
Traffic Accidents Per 100,000 Train Miles	1.17	1.02	0.74	0.00	1.73	●	1.05	1.96	2.16
CPUC Reportable Accidents per 100,000 Train Miles	1.17	1.02	0.50	0.37	1.04	●	1.05	0.98	1.08
Passenger Accidents per 100,000 Boardings	0.000	0.000	0.019	0.000	0.000	●	0.000	0.000	0.000
Complaints per 100,000 Boardings	1.53	1.13	3.38	1.87	5.64	●	6.04	6.02	4.79
New Workers' Compensation Indemnity Claims per	-	24.97	8.44	0.00	11.60	●	16.14	0.00	17.51
*Lost Work Days per 200,000 Exposure Hours	-	937	73	0	209	●	150	279	-
*OSHA Injuries per 200,000 Exposure Hours	-	-	5.63	0.00	8.67	●	16.14	-	-

\* There is One Month lag in reporting this data

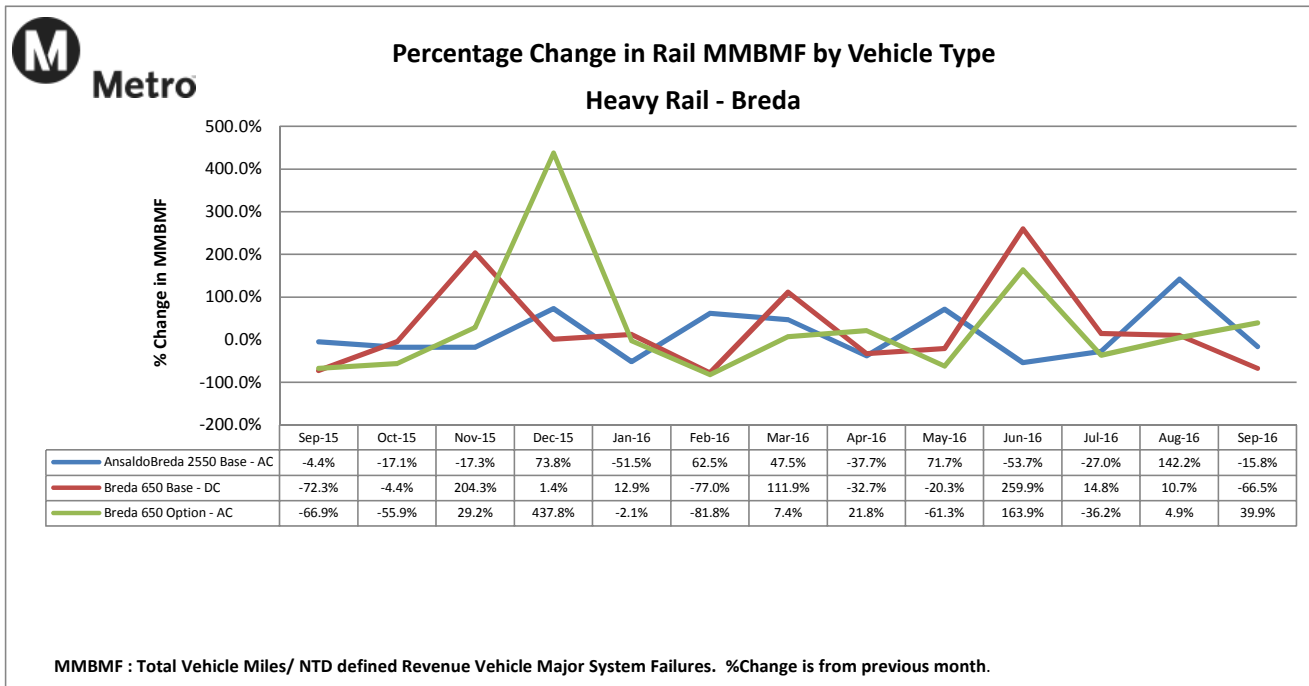
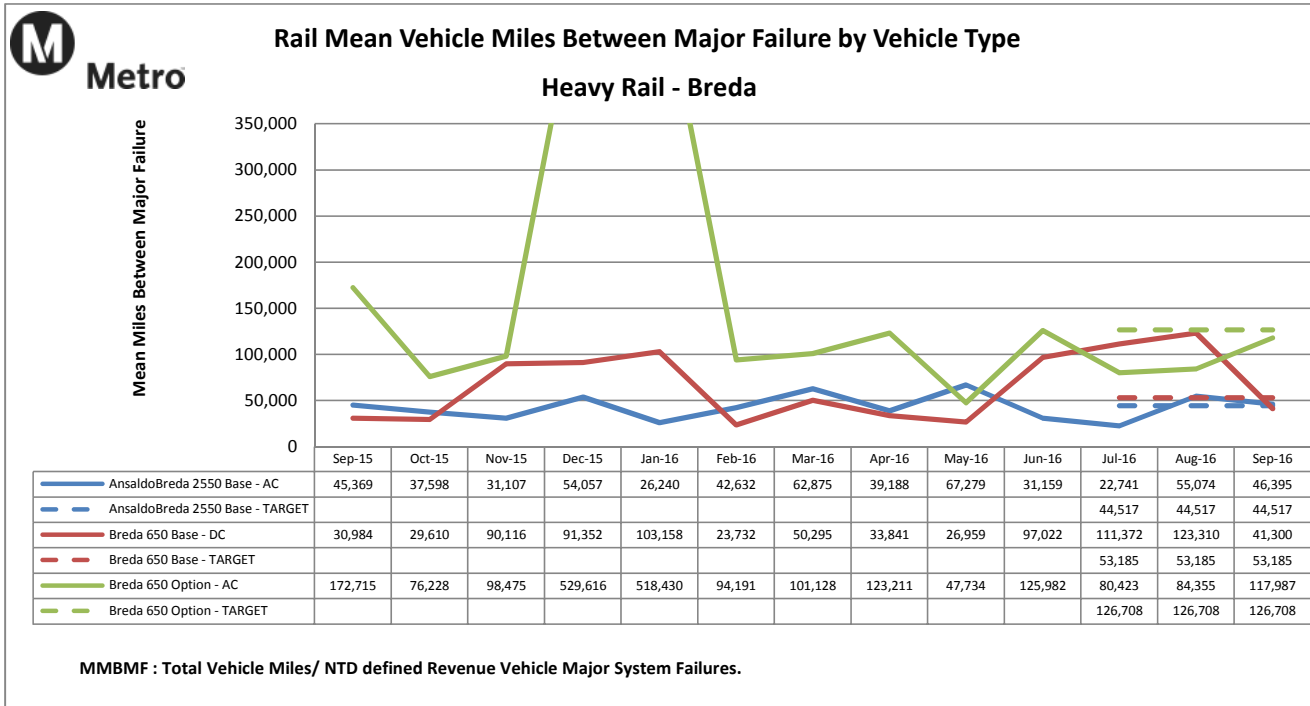
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● Yellow - Uncertain if the target will be achieved -- slight problems, delays or management issues. Falls below Target 70 - 99%.

● Red - High probability that the target will not be achieved -- significant problems and/or delays. Falls below Target >70%.

# METRO RAIL PERFORMANCE – SEPTEMBER 2016

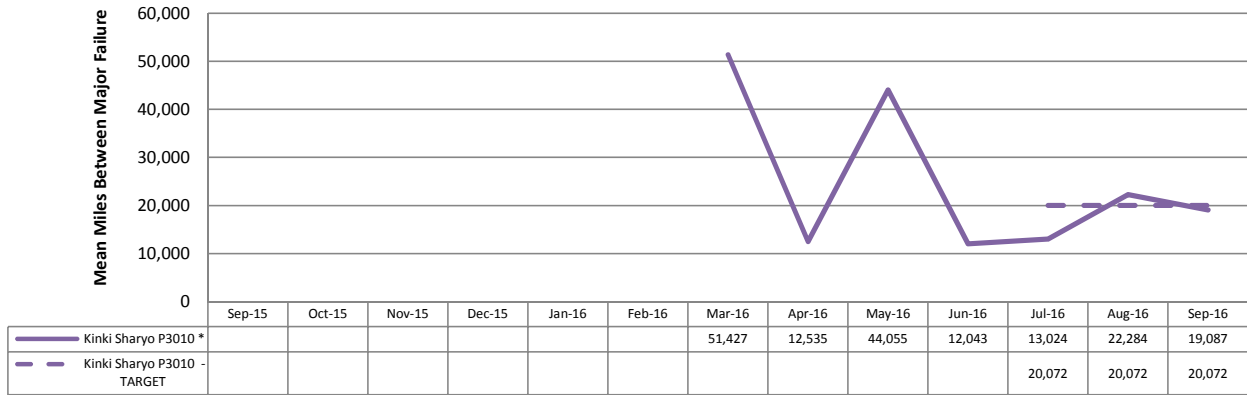
## Rail Performance by Vehicle Type





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### Rail Mean Vehicle Miles Between Major Failure by Vehicle Type Light Rail - KinkySharyo

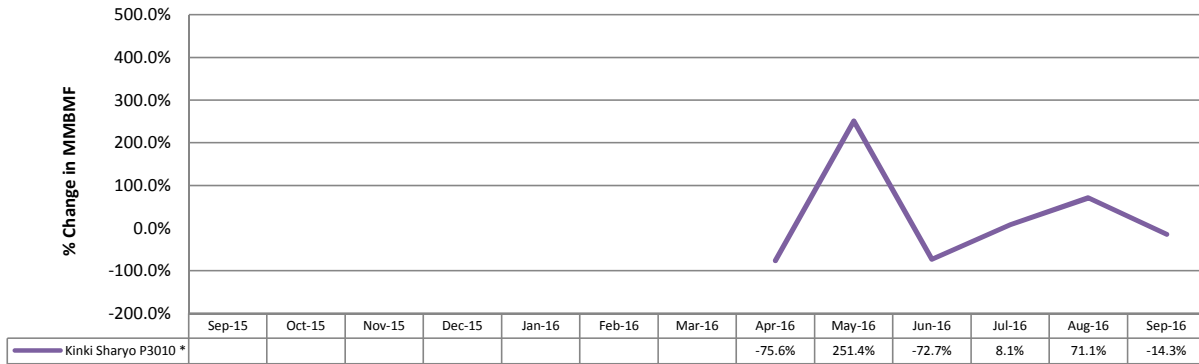


MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures.



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### Percentage Change in Rail MMBMF by Vehicle Type Light Rail - KinkySharyo



MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures. %Change is from previous month.

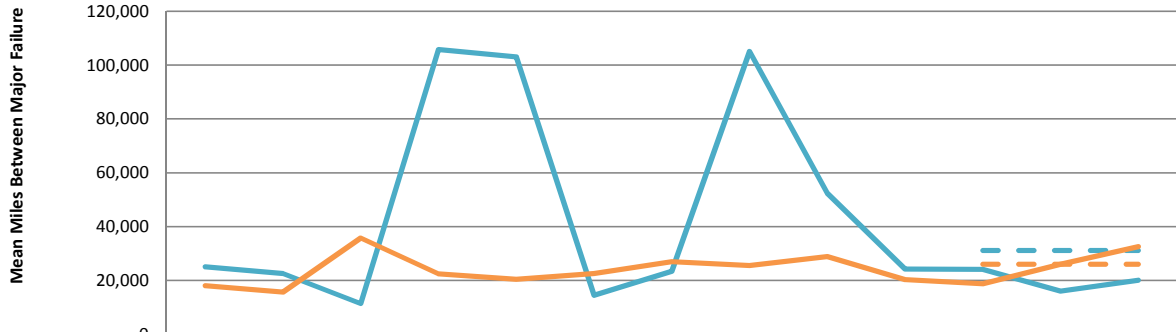
\* KinkySharyo rolling stock began service March 2016



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### Rail Mean Vehicle Miles Between Major Failure by Vehicle Type

#### Light Rail - NipponSharyo



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Nippon Sharyo 2020 - DC	25,176	22,622	11,500	105,799	103,129	14,620	23,452	105,138	52,426	24,256	24,134	16,076	20,161
Nippon Sharyo 2020 - TARGET											31,214	31,214	31,214
Nippon Sharyo 865 - DC	18,148	15,717	35,881	22,513	20,475	22,667	26,985	25,593	28,981	20,341	18,786	26,073	32,617
Nippon Sharyo 865 - TARGET											26,062	26,062	26,062

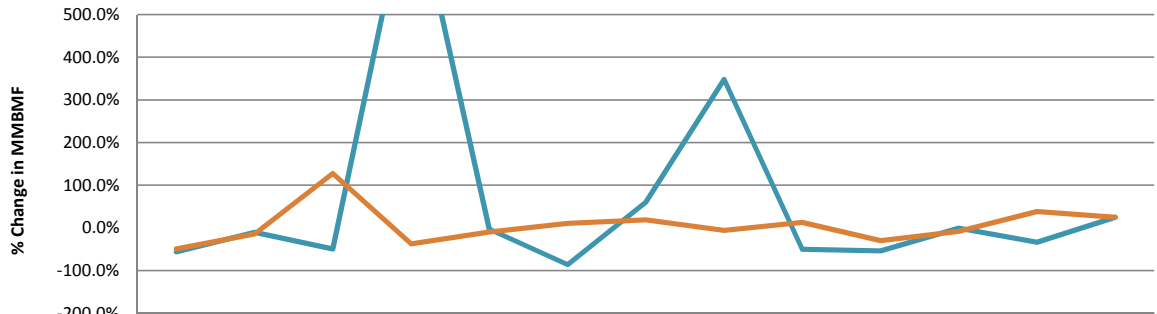
MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures.



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### Percentage Change in Rail MMBMF by Vehicle Type

#### Light Rail - NipponSharyo



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Nippon Sharyo 2020 - DC	-56.1%	-10.1%	-49.2%	820.0%	-2.5%	-85.8%	60.4%	348.3%	-50.1%	-53.7%	-0.5%	-33.4%	25.4%
Nippon Sharyo 865 - DC	-49.3%	-13.4%	128.3%	-37.3%	-9.1%	10.7%	19.0%	-5.2%	13.2%	-29.8%	-7.6%	38.8%	25.1%

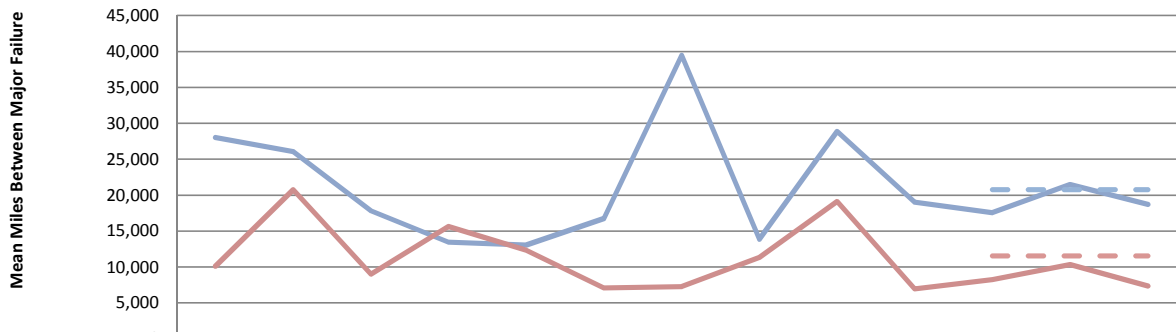
MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures. %Change is from previous month.



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### Rail Mean Vehicle Miles Between Major Failure by Vehicle Type

#### Light Rail - Siemens



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Siemens 2000 Base - AC	28,023	26,070	17,834	13,486	13,075	16,751	39,513	13,853	28,871	19,031	17,567	21,505	18,725
Siemens 2000 Base - TARGET											20,778	20,778	20,778
Siemens 2000 GE/ATP - AC	10,122	20,792	9,039	15,658	12,375	7,094	7,303	11,344	19,136	6,984	8,241	10,345	7,365
Siemens 2000 GE/ATP - TARGET											11,559	11,559	11,559

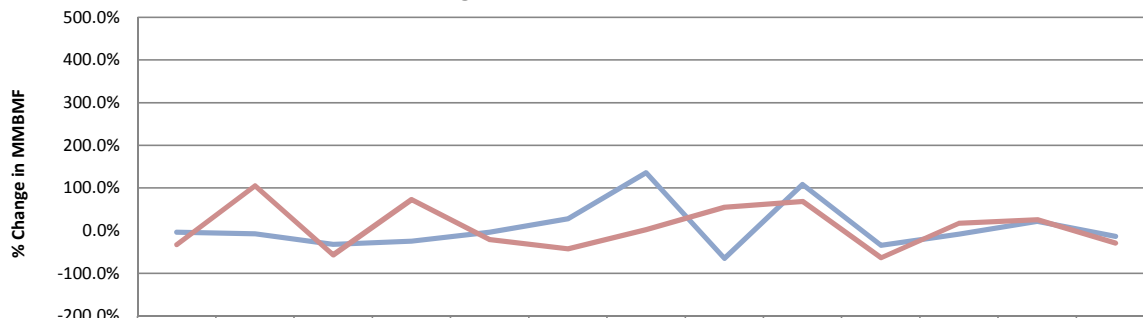
MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures.



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### Percentage Change in Rail MMBMF by Vehicle Type

#### Light Rail - Siemens



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Siemens 2000 Base - AC	-3.0%	-7.0%	-31.6%	-24.4%	-3.0%	28.1%	135.9%	-64.9%	108.4%	-34.1%	-7.7%	22.4%	-12.9%
Siemens 2000 GE/ATP - AC	-32.3%	105.4%	-56.5%	73.2%	-21.0%	-42.7%	3.0%	55.3%	68.7%	-63.5%	18.0%	25.5%	-28.8%

MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures. %Change is from previous month.

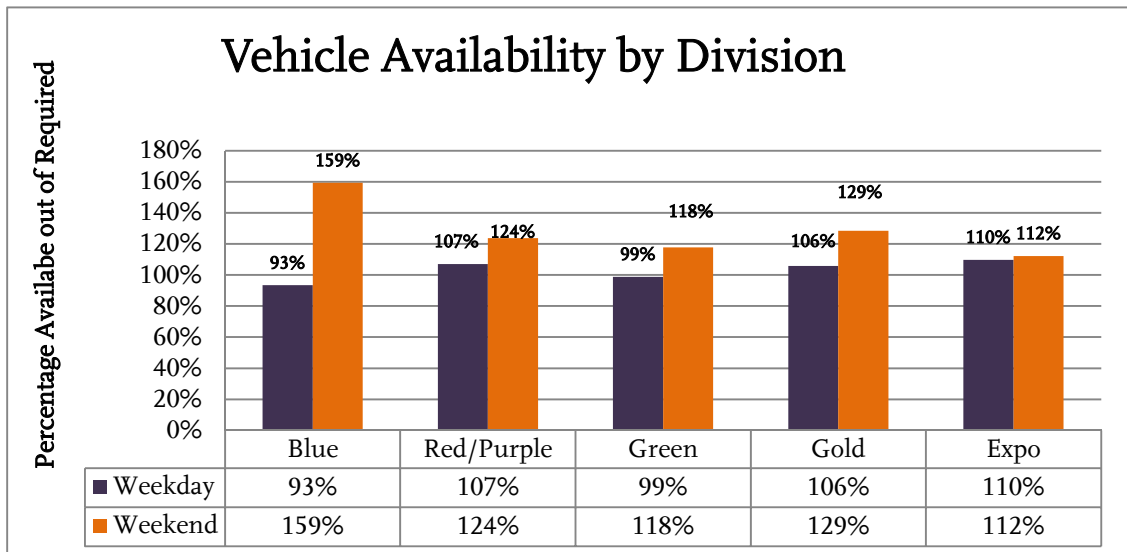


### Rail Fleet Distribution – SEPTEMBER 2016

Number of Rail Vehicle Type by Division	Blue	Red / Purple	Green	Gold	Expo
AnsaldoBreda 2550 Base - AC				50	
Breda 650 Base - DC		30			
Breda 650 Option - AC		74			
Kinki Sharyo P3010				10	22
Nippon Sharyo 2020 - DC	14				1
Nippon Sharyo 865 - DC	38				16
Siemens 2000 Base - AC			29		
Siemens 2000 GE/ATP - AC	17				6
<b>TOTALS</b>	<b>69</b>	<b>104</b>	<b>29</b>	<b>60</b>	<b>45</b>

## Vehicle Availability Systemwide

Blue			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	60	56	93%
Weekend	26	41	159%
Red/ Purple			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	74	79	107%
Weekend	55	68	124%
Green			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	22	22	99%
Weekend	14	17	118%
Gold			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	44	47	106%
Weekend	28	36	129%
Expo			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	27	30	110%
Weekend	27	30	112%

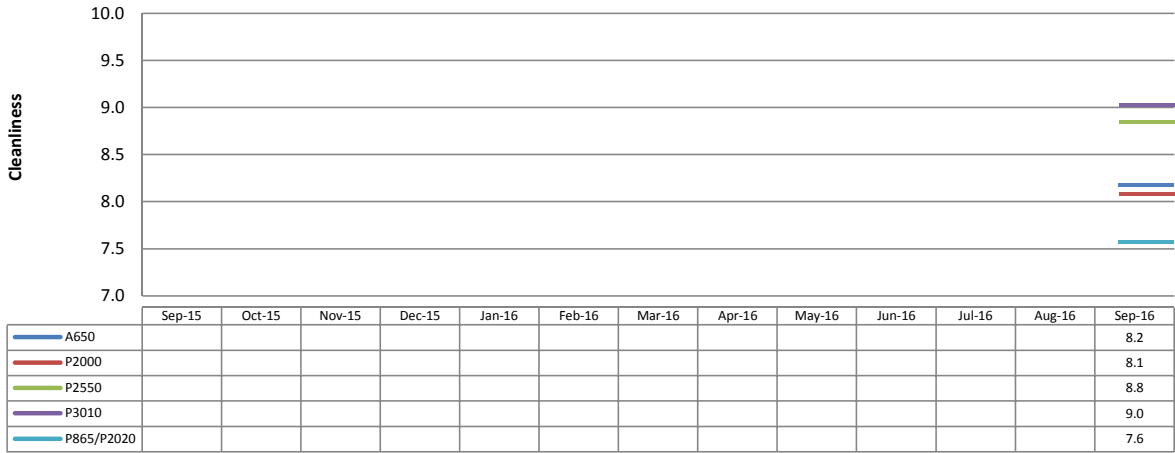


# Cleanliness by Vehicle Type



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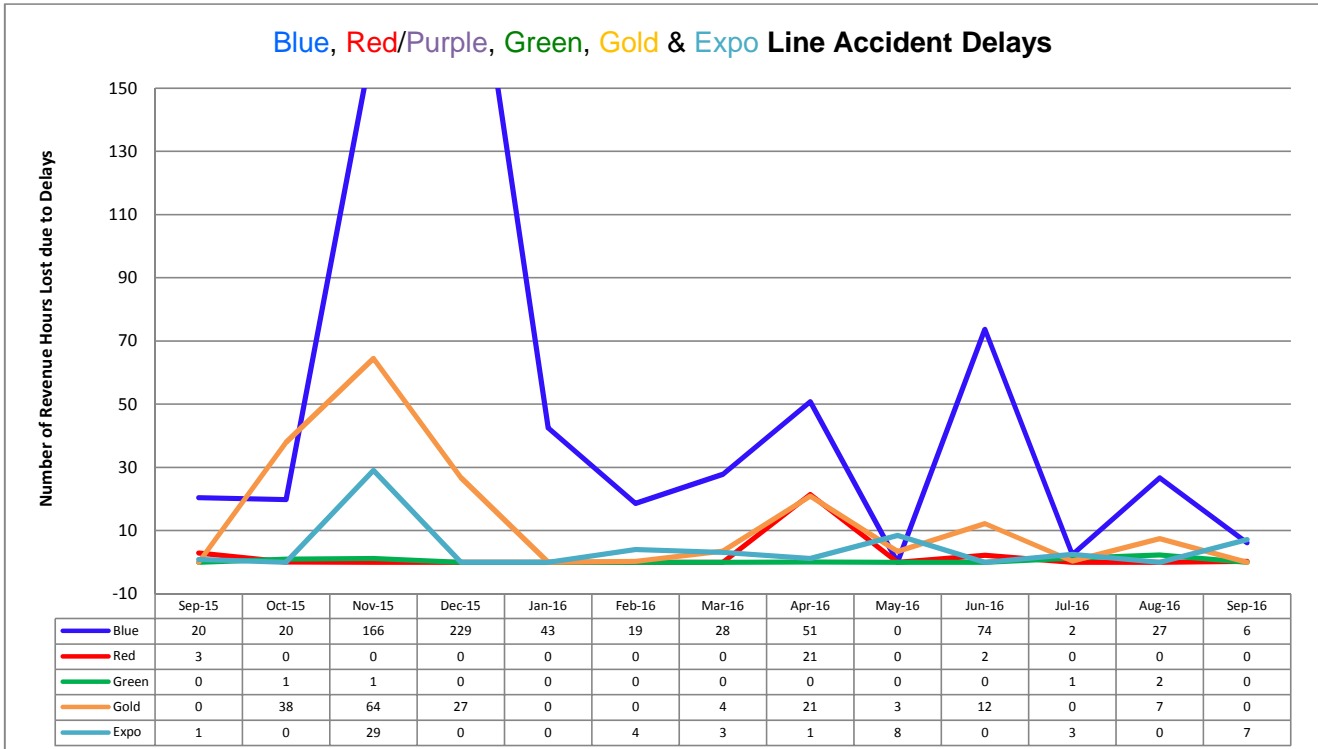
Rail Cleanliness by General Vehicle Type



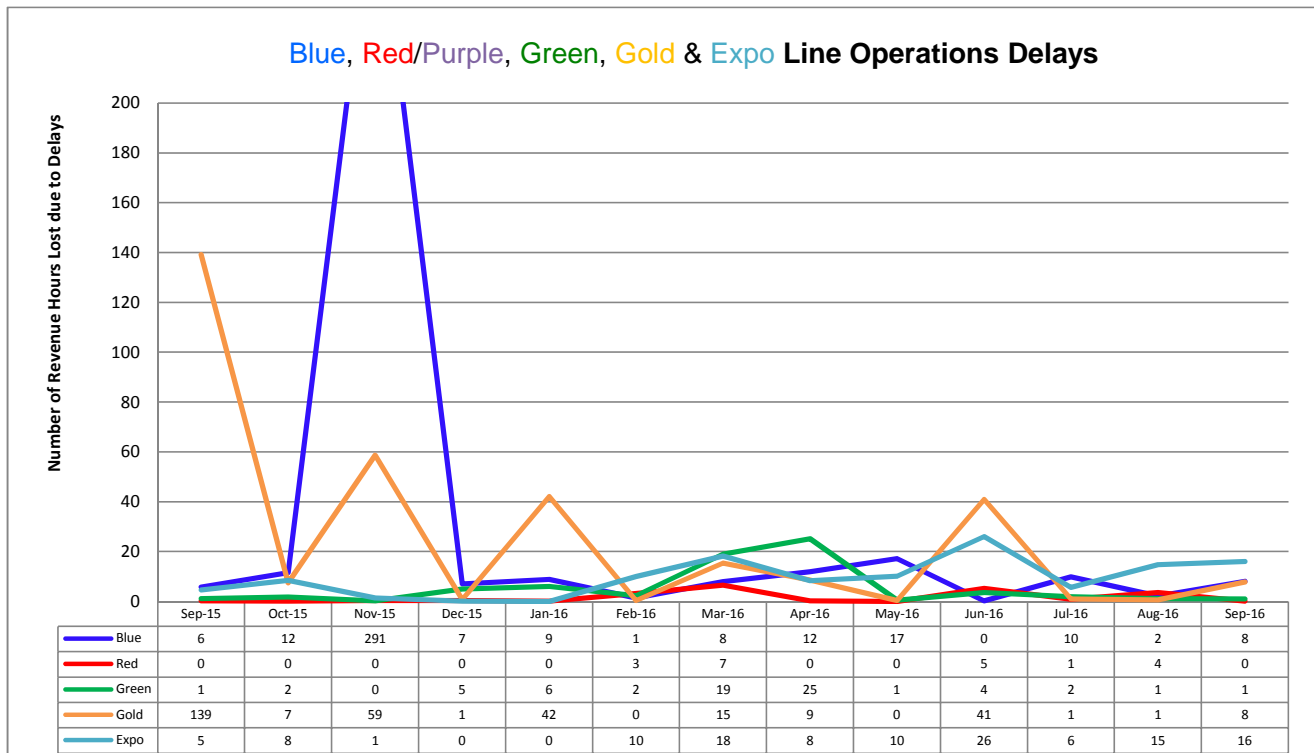
Note: Data Collection Began September 2016

## RAIL DELAYS BY CATEGORY - SYSTEMWIDE

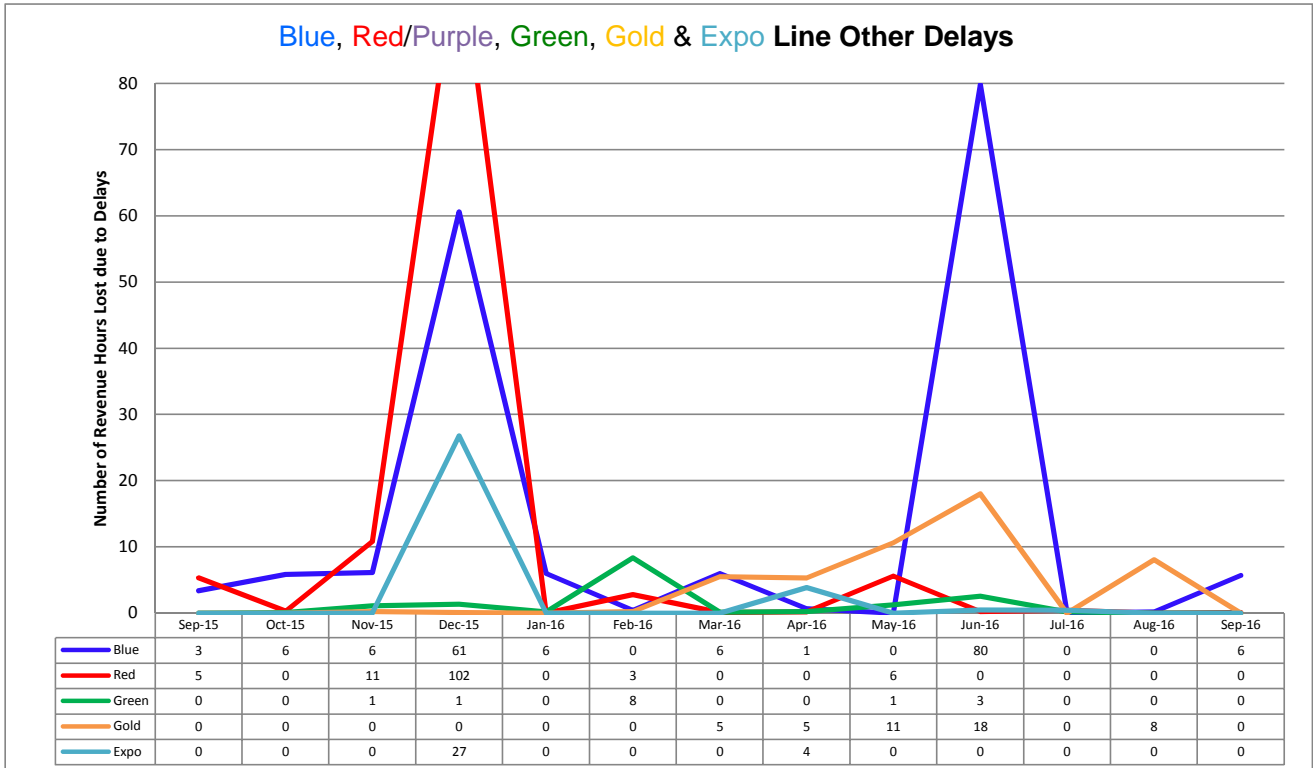
### Revenue Hours Lost Related to - ACCIDENTS



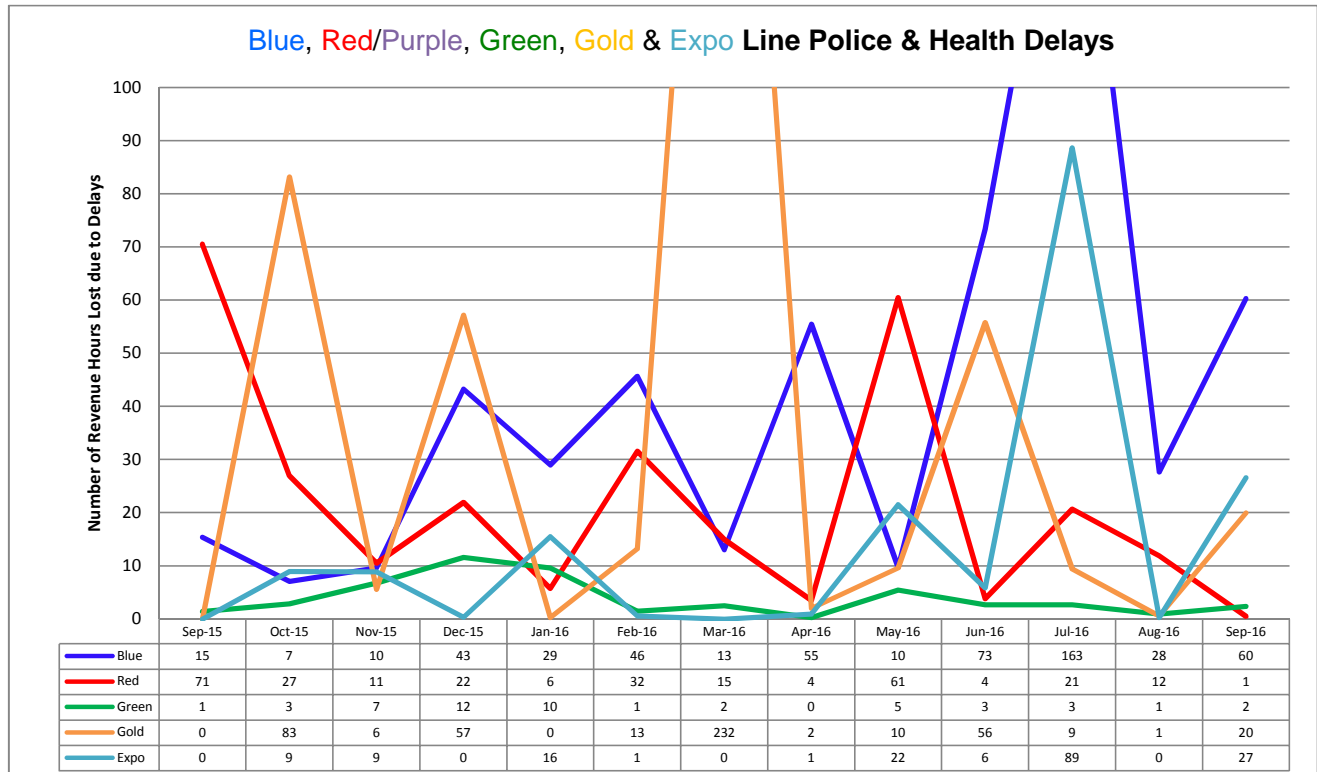
### Revenue Hours Lost Related to - OPERATIONS



### Revenue Hours Lost Related to - OTHER

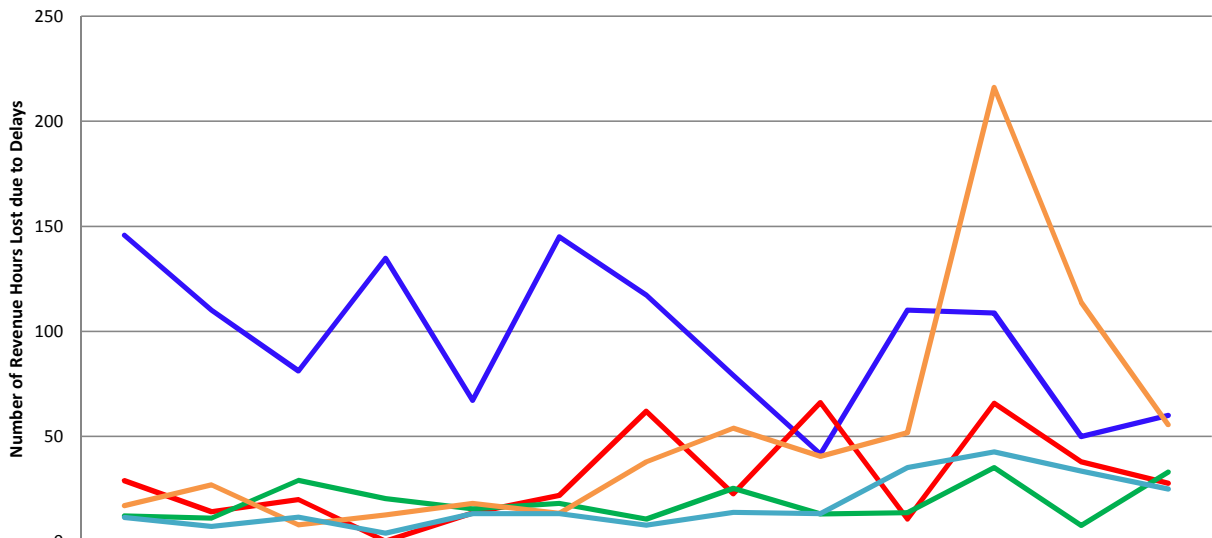


### Revenue Hours Lost Related to - POLICE & HEALTH



### Revenue Hours Lost Related to - Vehicle Delays

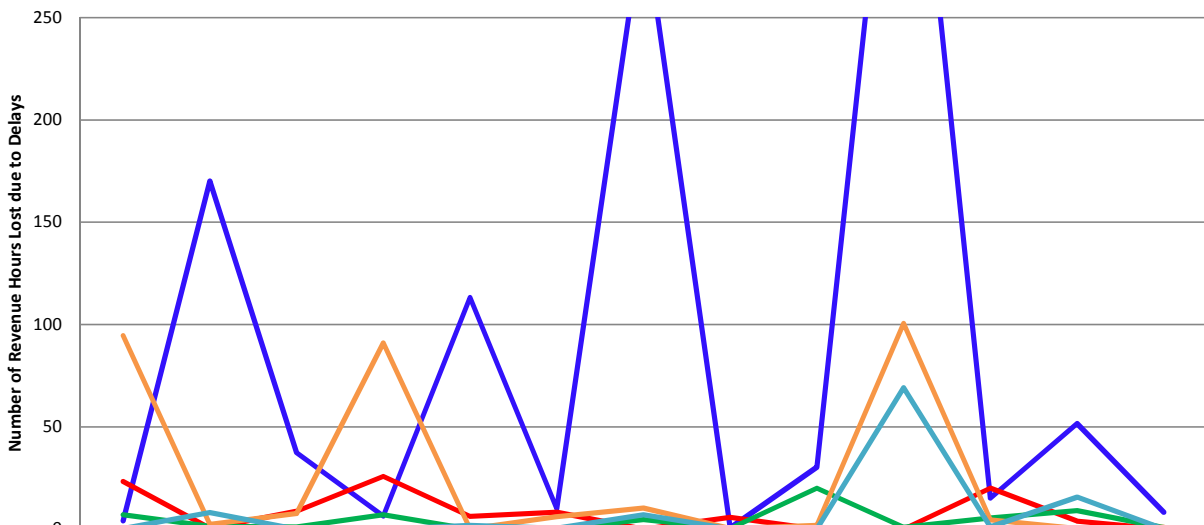
Blue, Red/Purple, Green, Gold & Expo Line Vehicle Delays



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Blue	146	110	81	135	67	145	117	79	42	110	109	50	60
Red	29	14	20	0	14	22	62	23	66	11	66	38	28
Green	12	11	29	20	16	18	11	25	13	14	35	8	33
Gold	17	27	8	13	18	13	38	54	41	52	216	114	56
Expo	12	7	12	4	13	13	8	14	13	35	43	34	25

Revenue Hours Lost Related to - WAYSIDE

Blue, Red/Purple, Green, Gold & Expo Line Wayside Delays

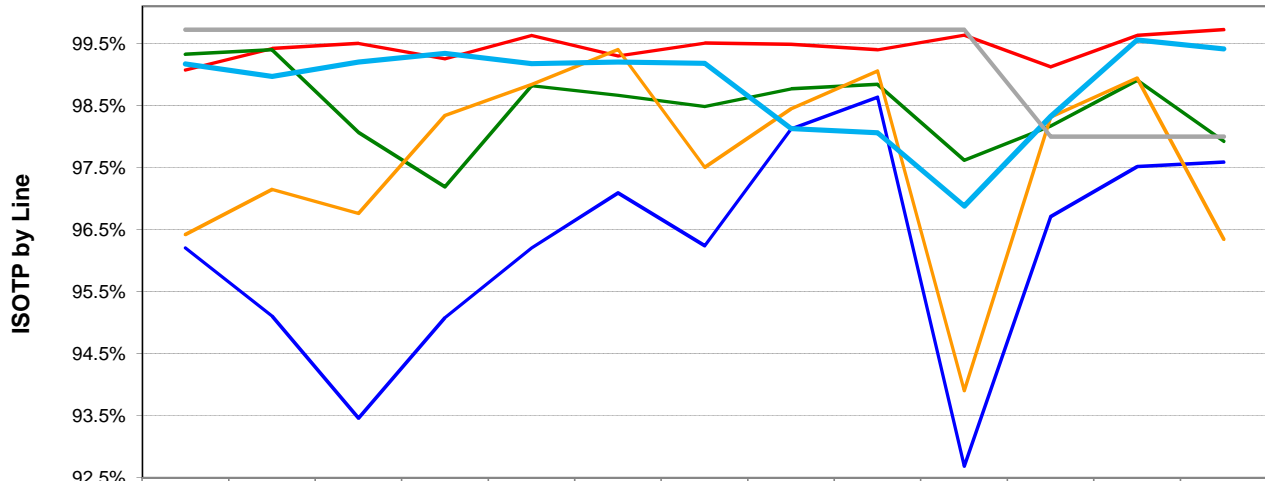


	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Blue	4	170	37	6	113	10	300	1	30	424	15	52	8
Red	23	1	9	26	6	8	0	6	0	0	20	4	0
Green	7	1	1	7	0	0	5	0	20	1	6	9	1
Gold	95	2	8	91	0	6	10	0	2	101	5	0	1
Expo	0	8	0	0	2	0	7	0	0	69	1	16	0

# Rail Service Performance

## In Service On Time Performance by Line

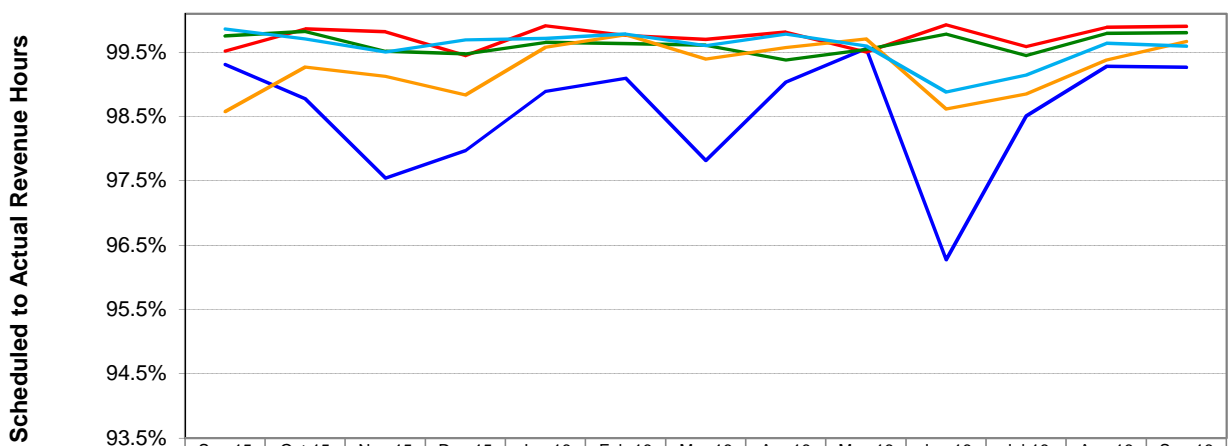
Blue, Red/Purple, Green, Gold & Expo Line ISOTP



	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Blue	96.2%	95.1%	93.5%	95.1%	96.2%	97.1%	96.2%	98.1%	98.6%	92.7%	96.7%	97.5%	97.6%
Red	99.1%	99.4%	99.5%	99.3%	99.6%	99.3%	99.5%	99.5%	99.4%	99.6%	99.1%	99.6%	99.7%
Green	99.3%	99.4%	98.1%	97.2%	98.8%	98.7%	98.5%	98.8%	98.8%	97.6%	98.2%	98.9%	97.9%
Gold	96.4%	97.1%	96.8%	98.3%	98.8%	99.4%	97.5%	98.4%	99.1%	93.9%	98.3%	98.9%	96.3%
Expo	99.2%	99.0%	99.2%	99.3%	99.2%	99.2%	99.2%	98.1%	98.1%	96.9%	98.3%	99.6%	99.4%
Goal	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	98.0%	98.0%	98.0%

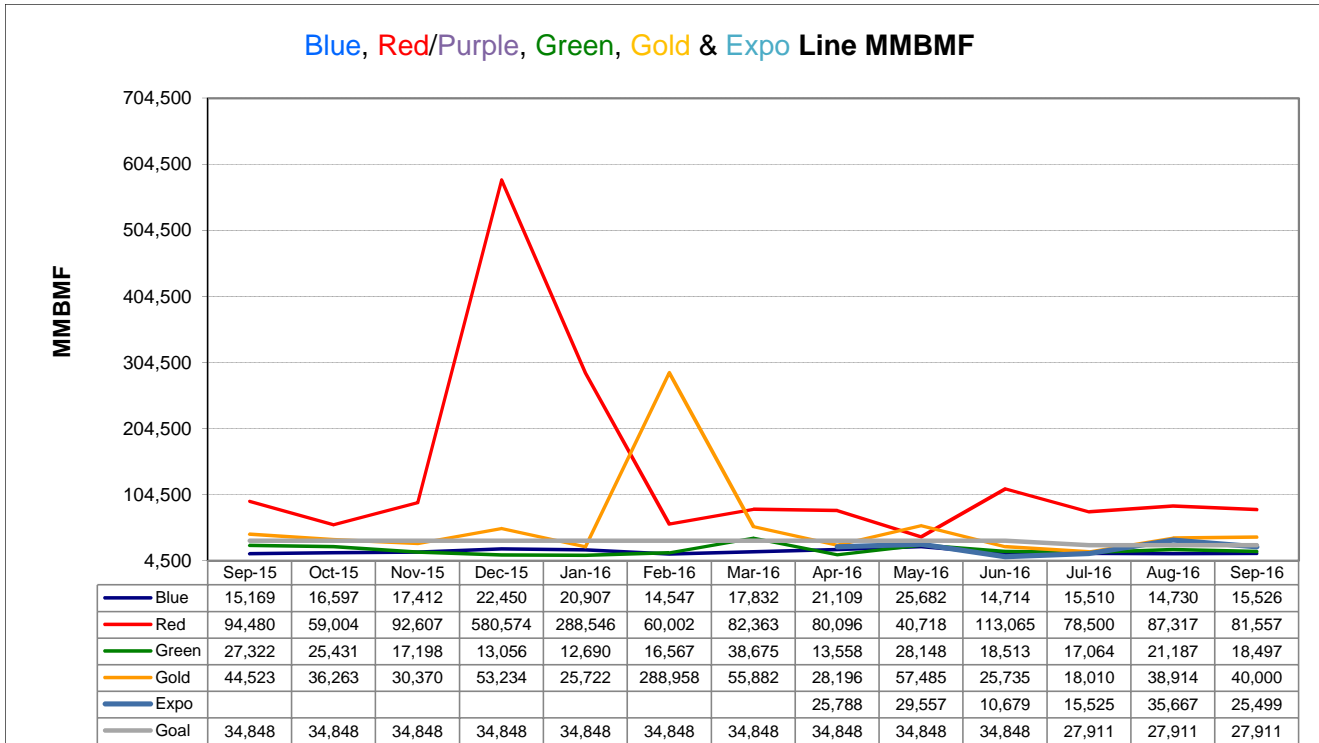
## Ratio of Scheduled to Revenue Hours Delivered by Line

Blue, Red/Purple, Green, Gold & Expo Line SRHD

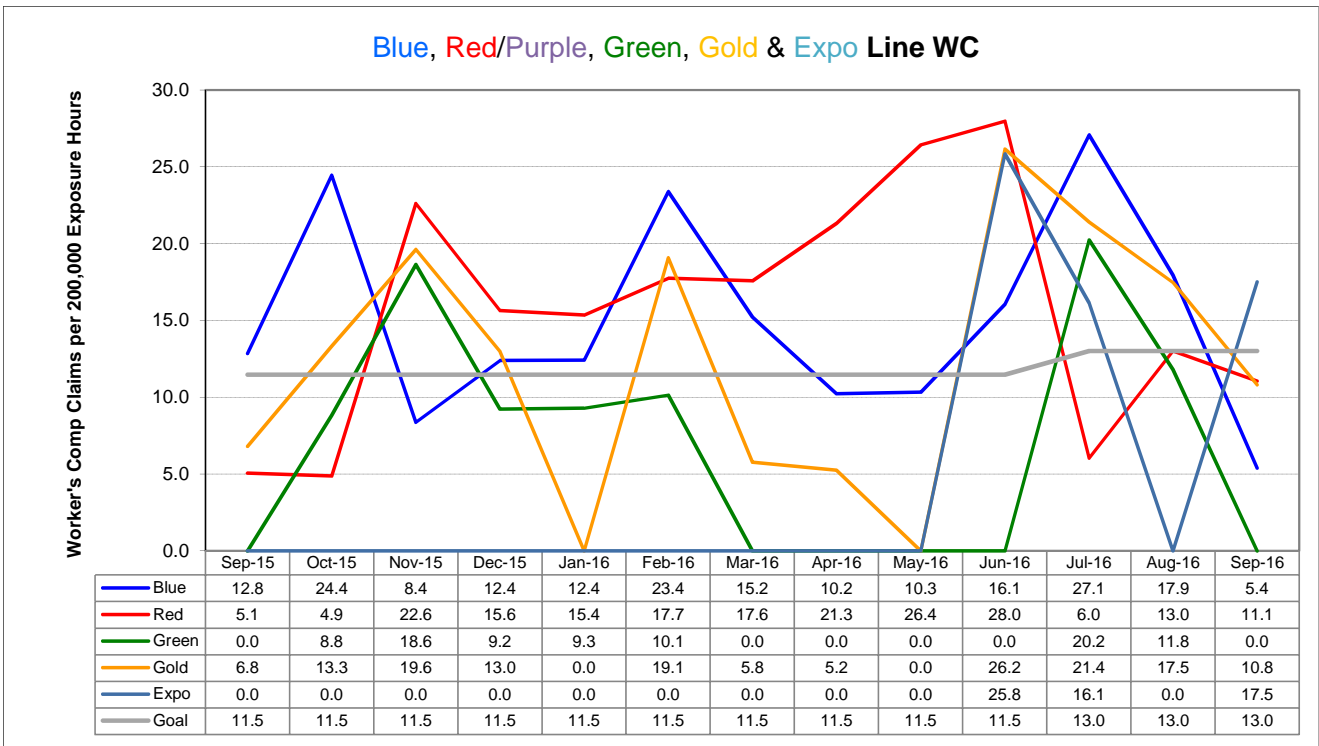


	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Blue	99.3%	98.8%	97.5%	98.0%	98.9%	99.1%	97.8%	99.0%	99.6%	96.3%	98.5%	99.3%	99.3%
Red	99.5%	99.9%	99.8%	99.5%	99.9%	99.8%	99.7%	99.8%	99.5%	99.9%	99.6%	99.9%	99.9%
Green	99.8%	99.8%	99.5%	99.5%	99.7%	99.6%	99.6%	99.4%	99.5%	99.8%	99.5%	99.8%	99.8%
Gold	98.6%	99.3%	99.1%	98.8%	99.6%	99.8%	99.4%	99.6%	99.7%	98.6%	98.9%	99.4%	99.7%
Expo	99.9%	99.7%	99.5%	99.7%	99.7%	99.8%	99.6%	99.8%	99.6%	98.9%	99.1%	99.6%	99.6%

### Mean Miles Between Mechanical Failures by Line

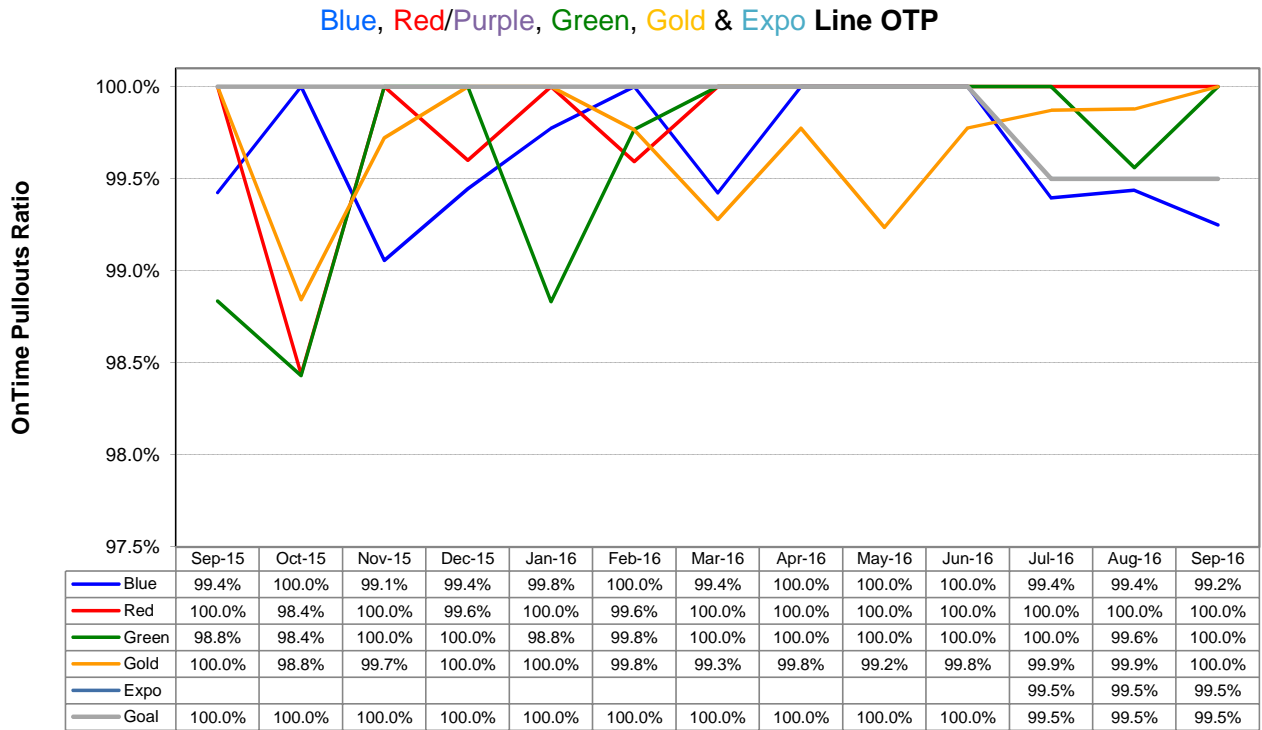


### Workers Comp Claims by Line



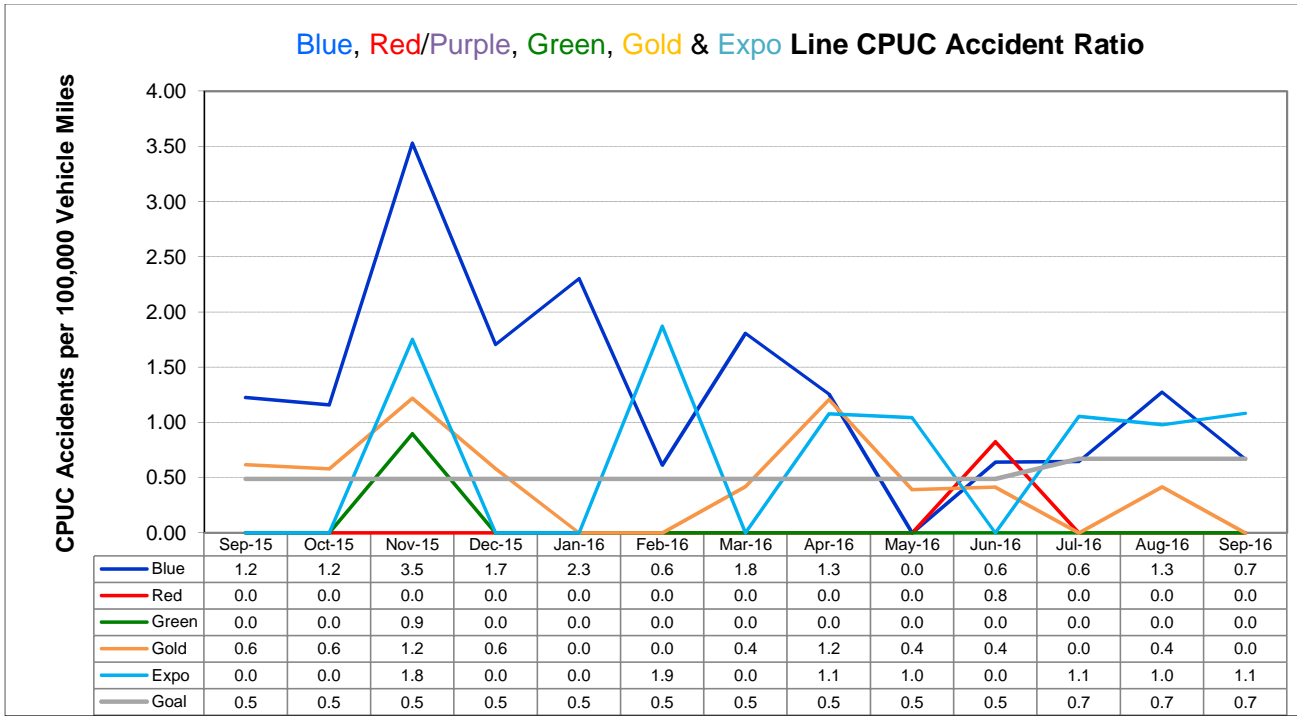


On-Time Pullouts Ratio by Line

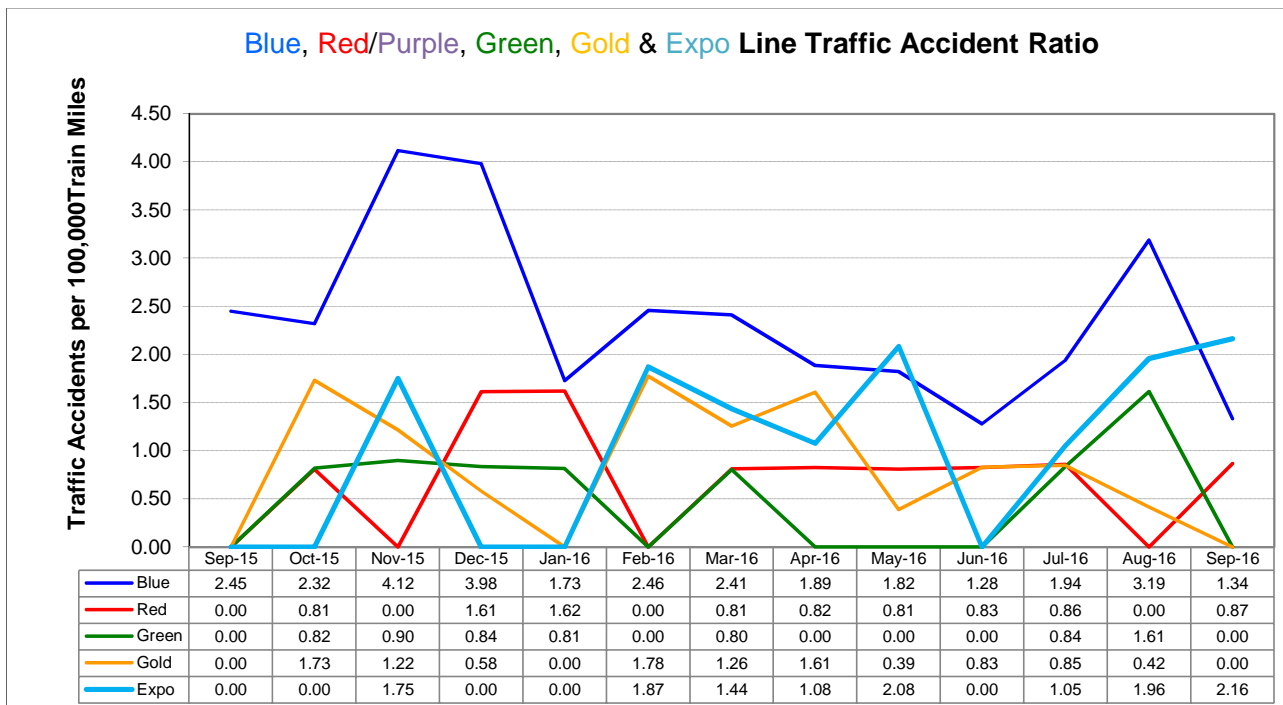


# Rail Safety Performance

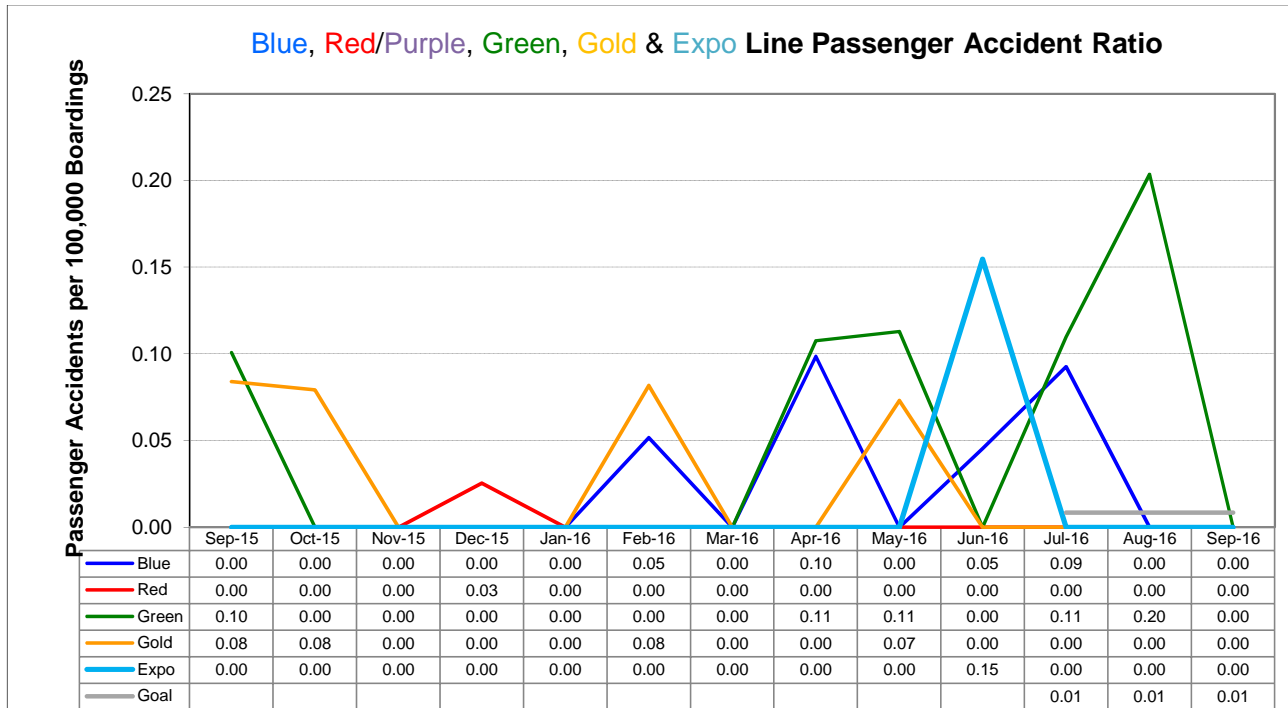
## CPUC REPORTABLE ACCIDENTS PER 100,000 TRAIN MILES



## TRAFFIC ACCIDENTS PER 100,000 TRAIN MILES



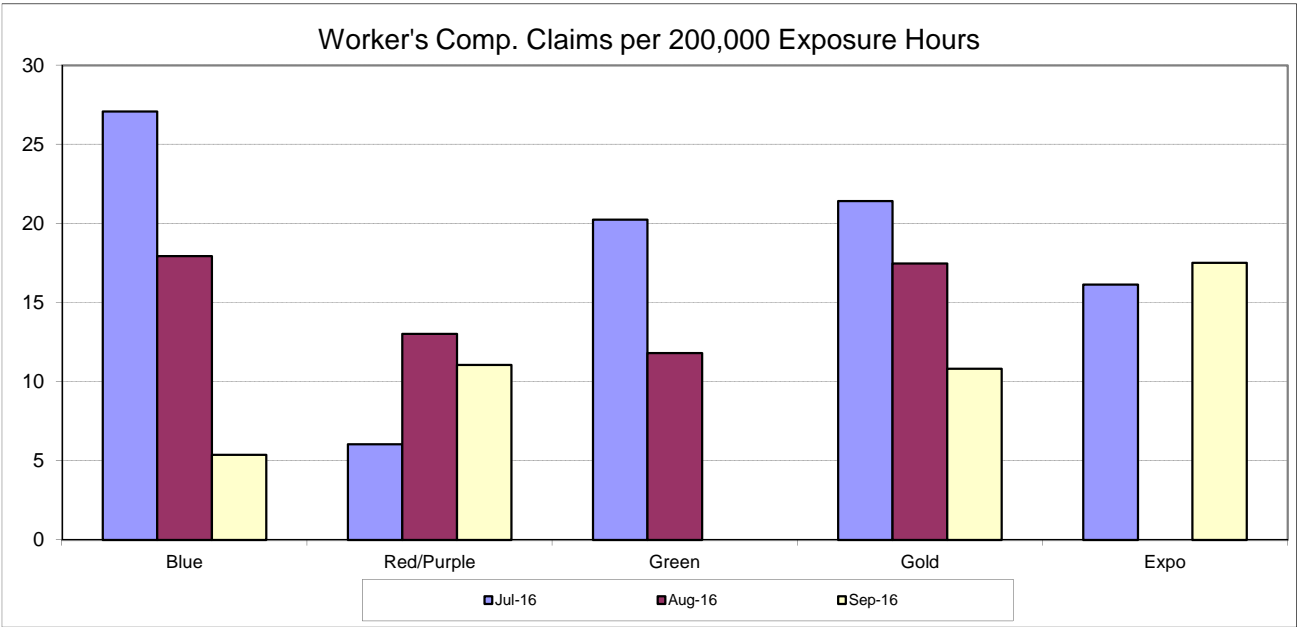
### PASSENGER ACCIDENTS PER 100,000 BOARDINGS



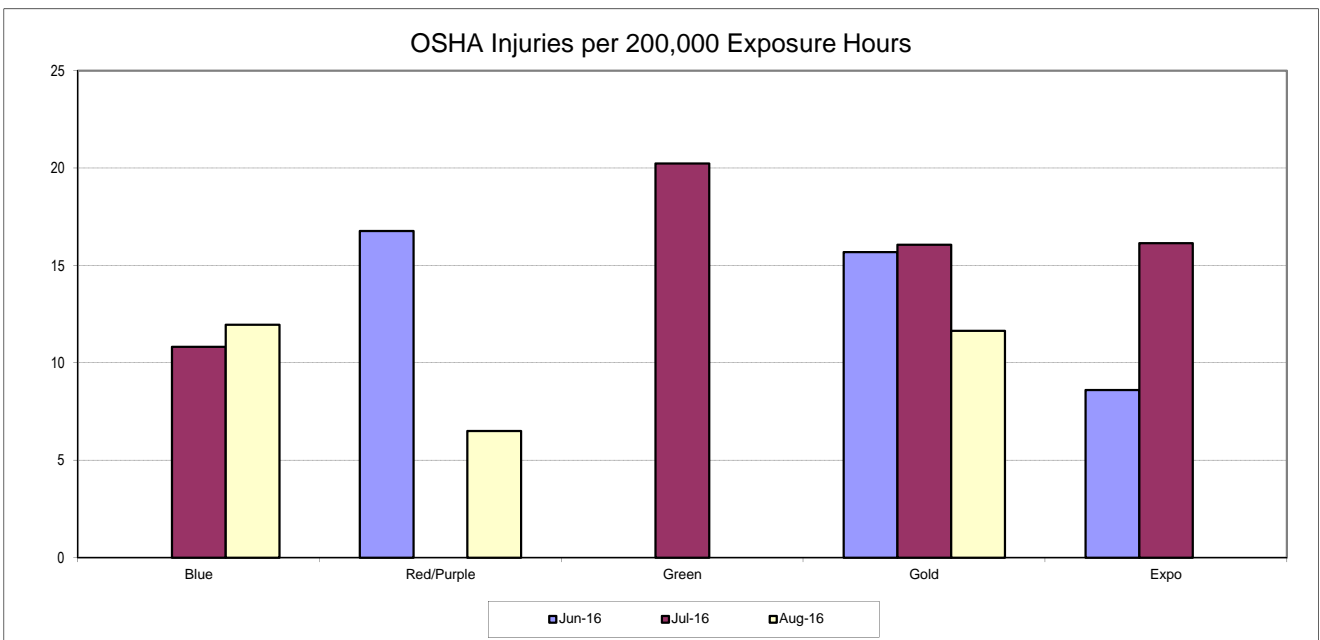
# Worker's Comp. Claims

Jul 2016 - Sep 2016

3 Month Comparison

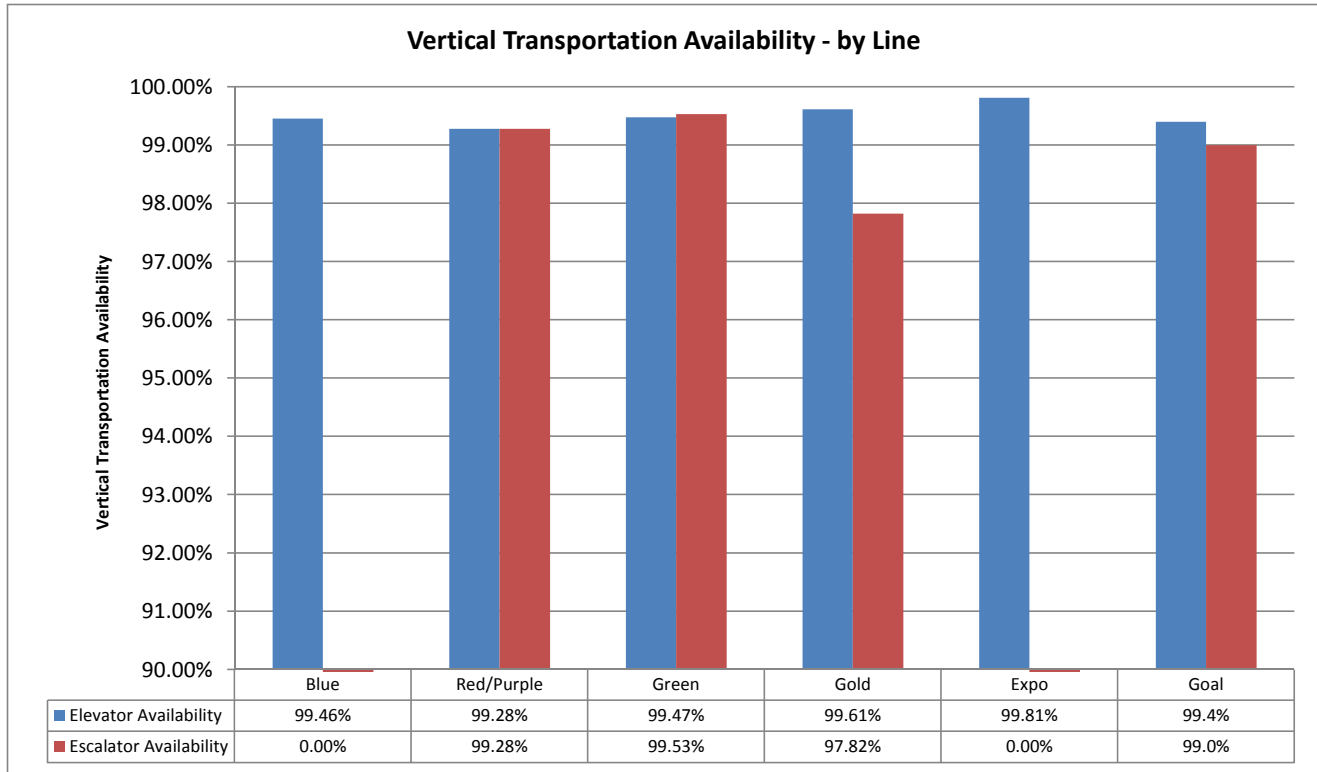


## Lost Work Days and OSHA Injuries Jun 2016 - Aug 2016 3 Month Comparison



Note: There is a one month lag in Lost Work Days and OSHA data.

## Systemwide Vertical Transportation Availability by Line



\* No Escalators at Blue and Expo Lines

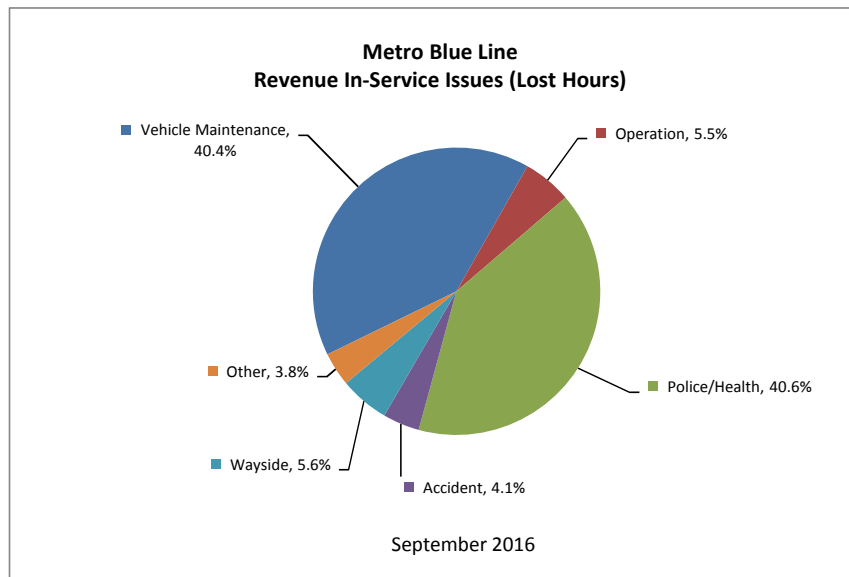
## BLUE LINE

Out of a total of 18,994 hours operated, there were approximately 149 total hours of service delays.

September 2016 Service Hours *	Revenue	
	Hours	Per Cent
Revenue Hours without Delays	18,845	99.2%
Hours Delayed	149	0.8%
<b>Total Revenue Hours</b>	<b>18,994</b>	<b>100.0%</b>

Summary of the major contributors:	Count	Hours	Per Cent
Operations	6	8.2	5.5%
Accidents	2	6.1	4.1%
Vehicle Maintenance	33	60.1	40.4%
Wayside	3	8.3	5.6%
Police & Health	9	60.3	40.6%
Other	3	5.7	3.8%
<b>Total</b>	<b>56</b>	<b>148.7</b>	<b>100.0%</b>

\* Data from M3 used to report Service Delays is under review for accuracy



## **September 2016 Blue Line major delay contributors were as follows:**

### **Operations Incidents:**

**9/10/2016 4:53:00 AM - Incident# 2775074 (0 lost trips, 12 lost minutes)**

Roll-Out late due to B/O car.

**9/15/2016 9:25:00 AM - Incident# 2777100 (1 lost trip, 168 lost minutes)**

Other: Information Only

Train 120 placed out of service due to dirty car (feces).

**9/18/2016 1:24:00 AM - Incident# 2778022 (1 lost trip, 163 lost minutes)**

Blockade at 24th grade crossing blocking both track

**9/24/2016 9:09:00 PM - Incident# 2780673 (1 lost trip, 121 lost minutes)**

Train delay

Train 112

Cars 231-248

Vernon tk 2 south bound

**9/26/2016 1:17:00 PM - Incident# 2781211 (0 lost trips, 8 lost minutes)**

Reports of unknown passenger issues

Train # 104

T-149

153-163-116

7th and Metro Center Station, Track #1, NB

**9/30/2016 6:10:00 PM - Incident# 2783352 (0 lost trips, 18 lost minutes)**

Train Delay, (Door problem) Cars #248-(230)-239

Train #127

T-053

Pico Station, Track #002, Southbound.

### **Accidents:**

**9/8/2016 10:56:00 PM - Incident# 2774670 (2 lost trips, 355 lost minutes)**

Train Vs. Auto

Train 104

(234B)-248

T-298

18th and Flower S/B

No Injuries

Residue delays



**9/12/2016 7:55:00 AM - Incident# 2775599 (0 lost trips, 12 lost minutes)**

Auto vs. Train LRV 302A

T-233

Train 108

LRV (302A) 342

Pacific and 3rd Street, Track 2, northbound.

**Vehicle Maintenance Incidents:**

**9/1/2016 4:27:00 PM - Incident# 2772256 (1 lost trip, 187 lost minutes)**

Reports no door lock indication on ADU

Train #124

T-132

(301)-302-247

Firestone Station, Track #2, NB

**9/1/2016 6:49:00 PM - Incident# 2772275 (0 lost trips, 7 lost minutes)**

No fault-No movement

Train #606

T-97

1024-1022-1037

7th and Metro Center Station, Track #2, SB

**9/2/2016 4:46:00 PM - Incident# 2772639 (0 lost trips, 5 lost minutes)**

Doors, Cars #166-(161B 5/6)-130

Train #124

T-183

Del Amo Station, Track #001, Northbound.

**9/6/2016 7:31:00 AM - Incident# 2773396 (1 lost trip, 167 lost minutes)**

Anaheim Station, Train-111 T-66 consist #248-236-235 with no movement from open door indication.

**9/6/2016 5:59:00 PM - Incident# 2773721 (0 lost trips, 6 lost minutes)**

Propulsion fault

Train 122

Car 233a

T-059

Willobrook Station

Southbound

**9/7/2016 2:55:00 PM - Incident# 2774157 (0 lost trips, 5 lost minutes)**

Operator reports of a recurring, non-clearable propulsion fault with a speed restriction.

Train 123

T-149

(148-138-160)

Del Amo station, Trk. 1, northbound

**9/8/2016 3:40:00 PM - Incident# 2774592 (0 lost trips, 6 lost minutes)**

Prop fault on car 301A

T-262, train 106

(301)-242-247

Vernon, track 2, south

**9/9/2016 7:10:00 AM - Incident# 2774760 (0 lost trips, 12 lost minutes)**

Propulsion / Dynamic Brakes

(301A)-247-242

Train 106

T-485

Northbound, Track 1, Willowbrook

**9/11/2016 3:45:00 PM - Incident# 2775425 (0 lost trips, 10 lost minutes)**

Operator reports of doors not closing. Further, was delayed due to non cycling bar signal at 14th Street

Train 110

T-292

(145)163

Del Amo station, Trk. 1, northbound

**9/12/2016 4:53:00 AM - Incident# 2775532 (0 lost trips, 3 lost minutes)**

Propulsion / Dynamic Brakes LRV 112B

T-236

Train 105

LRV (112B) 158 113

Washington Station, Track 2, southbound.

**9/12/2016 5:00:00 AM - Incident# 2775535 (0 lost trips, 3 lost minutes)**

Auto Train Protection (Speed Limit) LRV 301B

T-259

Train 108

LRV (301B) 242 302

Willowbrook Station, Track 2, southbound.

**9/13/2016 3:51:00 AM - Incident# 2776045 (0 lost trips, 15 lost minutes)**

Train 101, Cars 112,108 and 128.  
Mainyard Interlocking, north pull-out on departure track.  
Friction brakes locking.

**9/15/2016 8:13:00 PM - Incident# 2777327 (1 lost trip, 178 lost minutes)**

Operator reports of doors not closing  
Train 111  
T-082  
(231)-240  
Willow station, Trk. 2, southbound

**9/17/2016 3:13:00 PM - Incident# 2777963 (0 lost trips, 5 lost minutes)**

Lose Skirt , Car #(129A left #002)-161-127  
TRain #104  
T-149  
Washington Station, Track #002, Southbound.

**9/18/2016 9:55:00 AM - Incident# 2778085 (0 lost trips, 10 lost minutes)**

Cab window on 232A, bad window seal.  
T-259  
Train 101  
LRV (232A) 250 231  
Compton Station, Track 2, Southbound.

**9/18/2016 10:42:00 AM - Incident# 2778095 (0 lost trips, 12 lost minutes)**

Low Air Pressure 244 246  
T-400  
Train 108  
LRV 244 246  
Imperial Station, Track 1, northbound.

**9/20/2016 6:40:00 AM - Incident# 2778734 (0 lost trips, 10 lost minutes)**

Doors # 3 & 4 fail to close.  
Train # 118  
T-194  
Cars #302-(240-A).  
N/Bound Wardlow Station Track-1.

**9/20/2016 7:35:00 AM - Incident# 2778775 (1 lost trip, 167 lost minutes)**

Smoking friction brakes from the A Truck.  
Trains # 113  
T-152  
Cars # 109-128  
N?Bound 103rd Street Station Track-1.

**9/20/2016 10:22:00 AM - Incident# 2778842 (0 lost trips, 5 lost minutes)**

Doors, Cars (122A)-148-135

Train #107

T-118

Pico Station, Track #002, Southbound.

**9/20/2016 6:40:00 PM - Incident# 2779152 (0 lost trips, 6 lost minutes)**

Propulsion fault

Train 131

T-357

Car 150

Artesia Station

Southbound

**9/21/2016 5:12:00 AM - Incident# 2779251 (0 lost trips, 10 lost minutes)**

Doors (3/4)

240-(302)-248

Train 103

T-37

Metro Center, Southbound, Track 2

**9/21/2016 6:40:00 AM - Incident# 2779289 (0 lost trips, 20 lost minutes)**

Doors (248A 5/6)

(248A)-302-240

Train 109

T-115

Slauson, Southbound, Track 2

**9/21/2016 8:24:00 AM - Incident# 2779340 (1 lost trip, 167 lost minutes)**

Friction Brakes ( Self apply brakes)

(232A)-235

Train 105

T-102

Anaheim, Northbound, Track 1

**9/21/2016 3:15:00 PM - Incident# 2779553 (1 lost trip, 167 lost minutes)**

Door fault on cars 109-166-142

T-357, train 132

109-166-142

Grand, track 2, south

**9/26/2016 7:58:00 AM - Incident# 2781046 (1 lost trip, 187 lost minutes)**

No Movement, no indications.

Train #116.

T-258.

LRV-(233B),301,230.Track #1.

300 ft. north of Mainyard Interlocking.

**9/27/2016 9:19:00 AM - Incident# 2781613 (0 lost trips, 10 lost minutes)**

Complete ATP Failure.

Train #

T-

(AB)--

EWB, 7th and Metro Center Station, Track #

**9/27/2016 3:42:00 PM - Incident# 2781945 (0 lost trips, 6 lost minutes)**

Lost cab signal unable to reset.

Train 104

Car 248

Willow Station

Northbound

**9/27/2016 4:45:00 PM - Incident# 2781973 (0 lost trips, 6 lost minutes)**

Propulsion Fault

Train 123

Car 232

Compton Station

Northbound

**9/28/2016 4:38:00 PM - Incident# 2782485 (1 lost trip, 179 lost minutes)**

Operator reports of a non clearing propulsion fault, with a speed restriction.

Train 126

T-246

(126A)151

Vernon station, Trk. 2, southbound

**9/29/2016 6:09:00 PM - Incident# 2782895 (10 lost trips, 1,686 lost minutes)**

Propulsion fault with a speed restriction of 35mph

Train # 127

T-53

(101A)-159

7th and Metro Center Station, Track #2, SB

**9/29/2016 11:48:00 PM - Incident# 2782772 (2 lost trips, 335 lost minutes)**

Reports of self applying brakes

Train #105

T-46

133-164-116

Willowbrook Station, Track #2, SB

**9/30/2016 5:27:00 AM - Incident# 2783012 (0 lost trips, 6 lost minutes)**

Propulsion / Dynamic Brakes

(166)-146-163

T-224

Train 105

Wardlow, Southbound, Track 2

**9/30/2016 6:22:00 AM - Incident# 2783050 (0 lost trips, 6 lost minutes)**

Friction Brakes (Master Controller)

(232A)-301-247

Train 106

T-132

Anaheim, Southbound, Track 2

**Wayside Incidents:**

**9/10/2016 2:42:00 PM - Incident# 2775212 (1 lost trip, 133 lost minutes)**

Loss of DC power from Florence Station to Firestone Station

**9/14/2016 5:55:00 PM - Incident# 2776889 (2 lost trips, 355 lost minutes)**

ETS: Tripped at San Pedro and Washington TPSS

**9/28/2016 2:20:00 PM - Incident# 2782372 (0 lost trips, 12 lost minutes)**

ARINC System indicates switch 23 (A)(B) are out of correspondence

**Police & Health Incidents:**

**9/5/2016 5:09:00 PM - Incident# 2773245 (0 lost trips, 12 lost minutes)**

Police activity at Long Beach and Pacific Coast Highway station. North/West of PCH not on platform (street

**9/11/2016 7:05:00 PM - Incident# 2775451 (0 lost trips, 13 lost minutes)**

Operator reports of two male blacks on board rail car (156A) one of which has a knife.

Train 101

T-250

(156A)166

Compton Station, Trk. 2, southbound

**9/12/2016 1:08:00 PM - Incident# 2775757 (0 lost trips, 10 lost minutes)**

Reports of passenger claiming injury

Train #110

T-132

138-(150A)-165

NB, Transit Mall Station, Track #2

**9/14/2016 3:12:00 PM - Incident# 2776775 (20 lost trips, 3,354 lost minutes)**

Suspicious Package at Willow Station

**9/20/2016 11:22:00 PM - Incident# 2779206 (0 lost trips, 25 lost minutes)**

Patron jumped on top of coupler of train 105 at Pico Station.

**9/22/2016 6:59:00 PM - Incident# 2780056 (0 lost trips, 15 lost minutes)**

Possible fight on train. 112-133-160

Train 104

T-137

Track 2

Southbound

Artesia station

**9/25/2016 3:00:00 PM - Incident# 2780822 (0 lost trips, 16 lost minutes)**

Train 102 was held by LASD Deputy Hacen at Wardlow Station with 16 minute delay.

**9/29/2016 8:46:00 AM - Incident# 2782731 (1 lost trip, 167 lost minutes)**

Artesia Station, Train-120 T-194 conswist #161-165-151 with medical emergency onboard car #165 involving Female patron.

**9/30/2016 12:58:00 PM - Incident# 2783245 (0 lost trips, 7 lost minutes)**

Sick Individual (chest pains) Cars #(159A)-105-142

Train #102

T-224

Vernon Staion, Track #002, Southbound.

**Other Incidents:**

**9/8/2016 10:06:00 PM - Incident# 2774675 (1 lost trip, 167 lost minutes)**

Passenger assaulted on board Train 132

T-174

125-117-(138A)

S/B Track 2 Vernon

**9/9/2016 11:49:00 PM - Incident# 2774886 (1 lost trip, 170 lost minutes)**

Medical Emergency: Possible Seizure

PCH Station

Train 110

Cars: (237)-244

Trk 2, Southbound

T-87

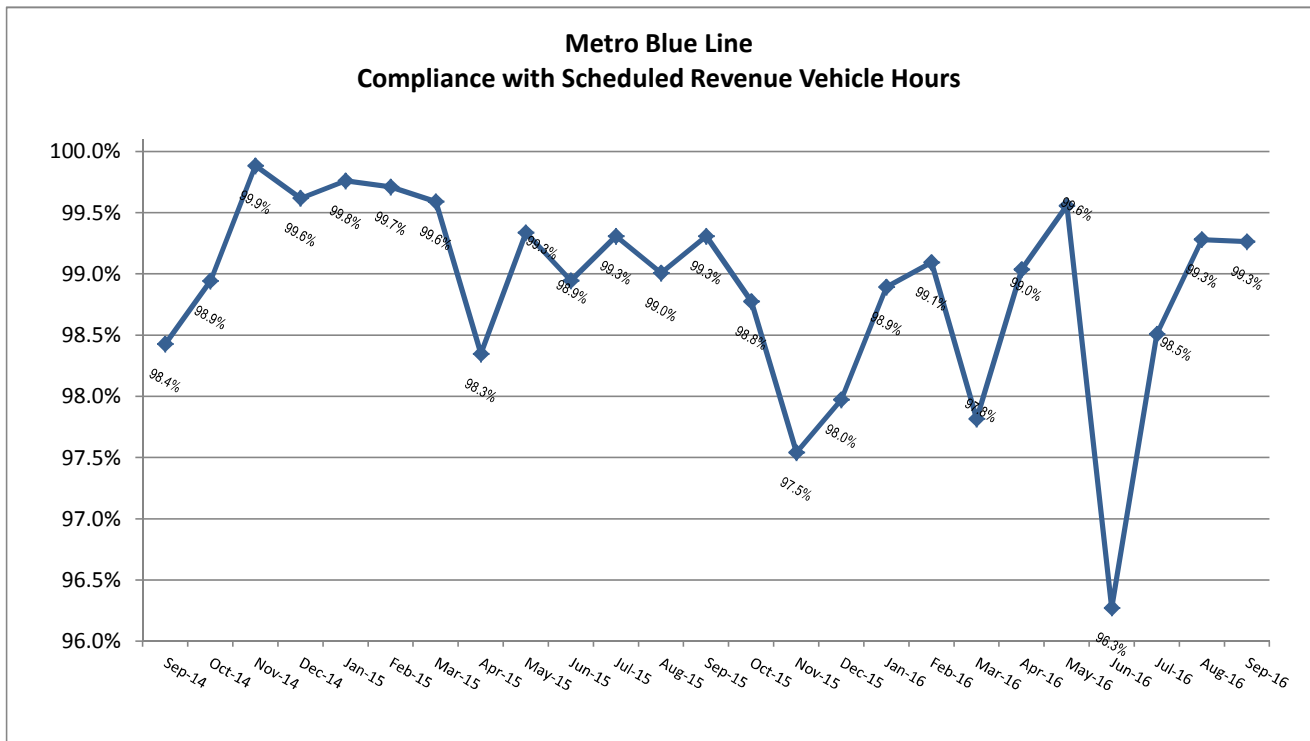
**9/27/2016 4:38:00 AM - Incident# 2781489 (0 lost trips, 3 lost minutes)**

Anaheim street station: Long Beach FD advised ROC that there is a fire at 146 Long Beach Blvd, affecting Anaheim street station; LBFD requesting no trains on track 1 between ANaheim and PCH stations.

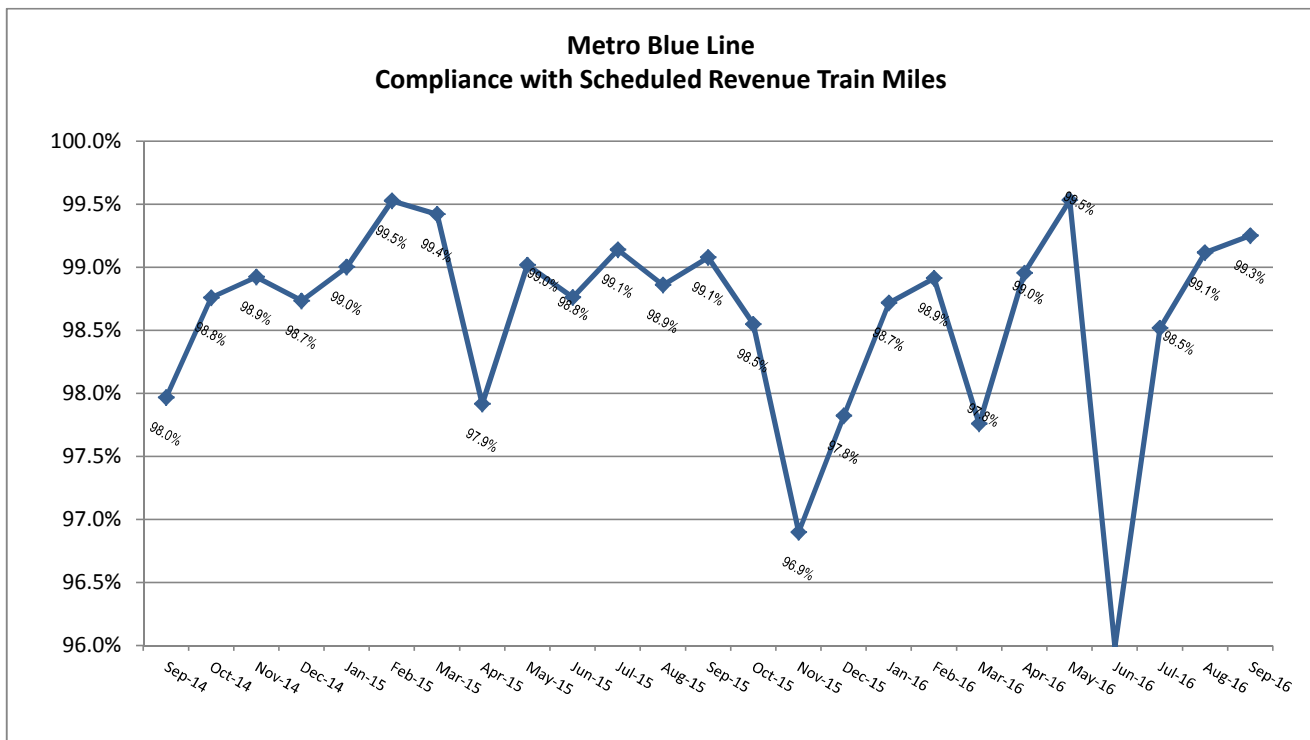


# MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

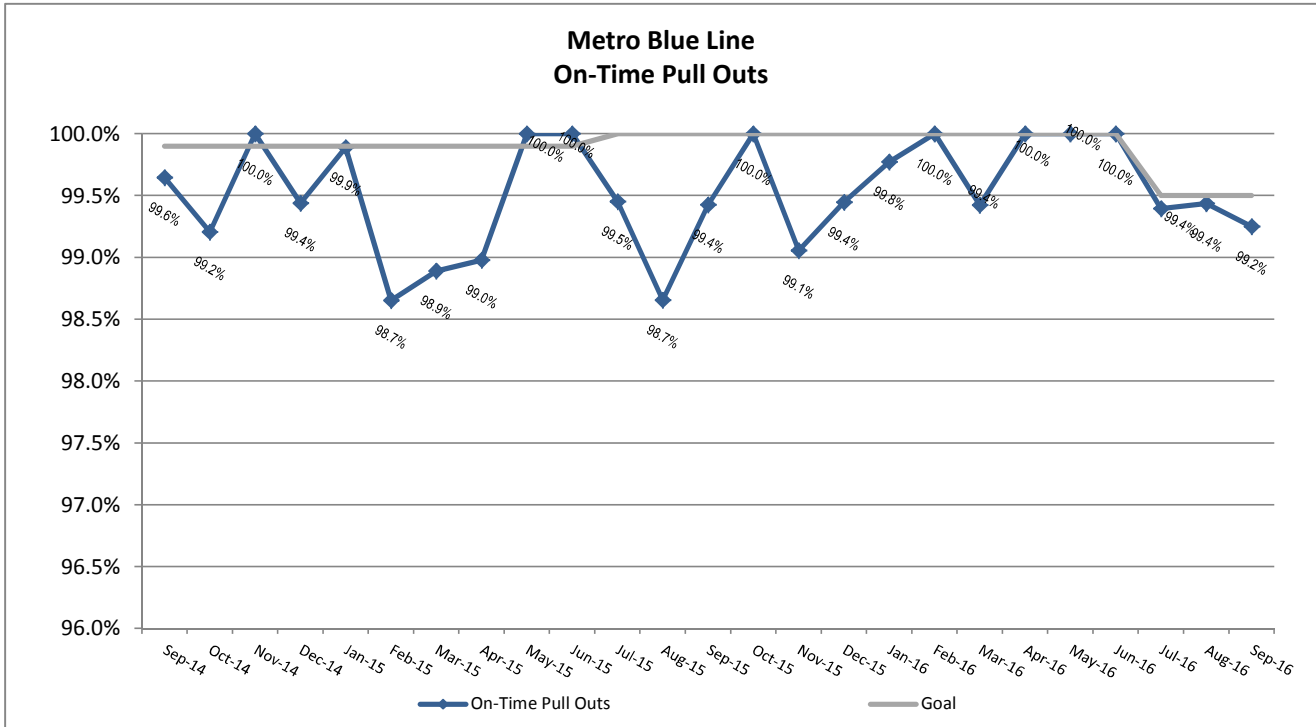
## COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART



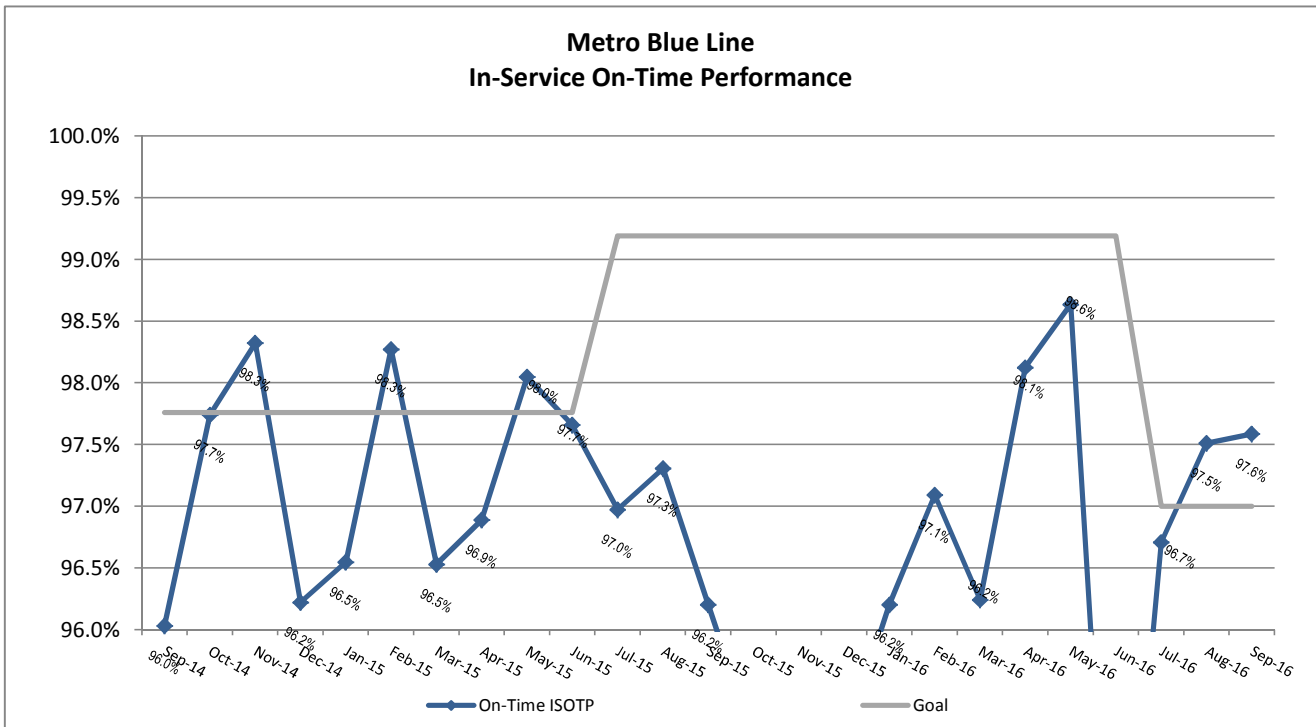
## COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



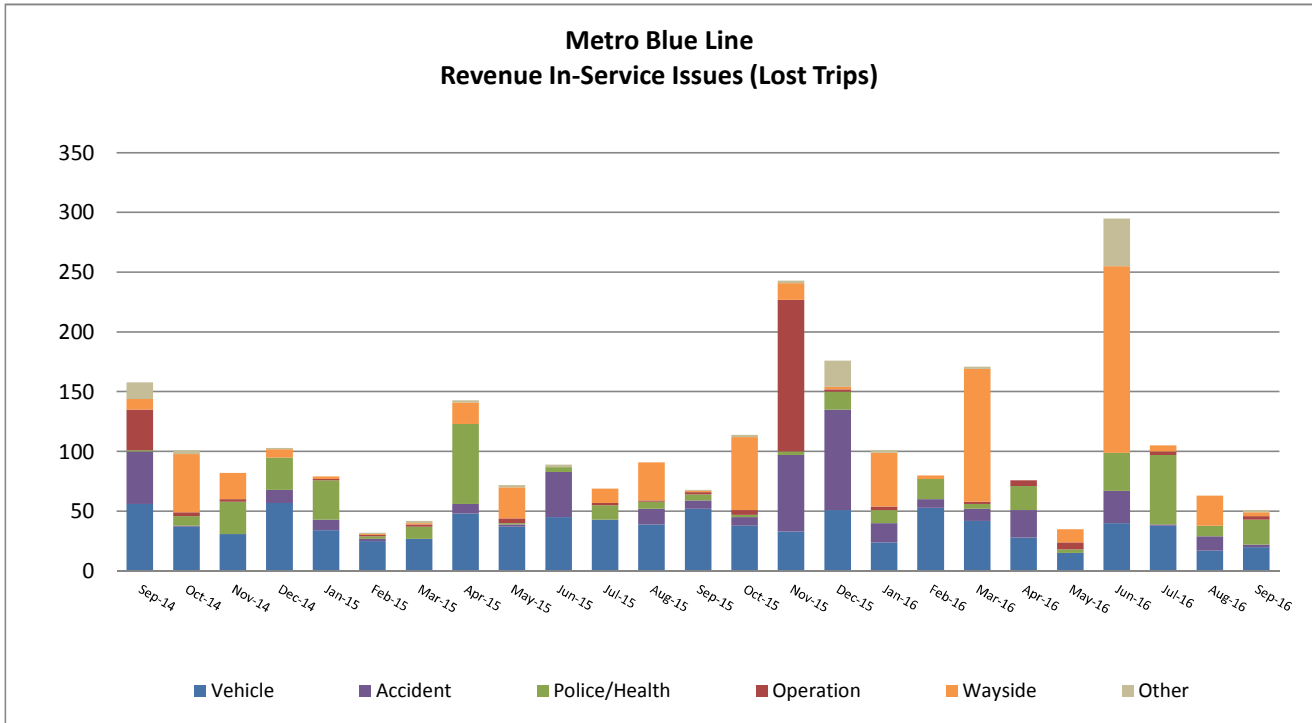
### ON-TIME PULL OUTS CHART



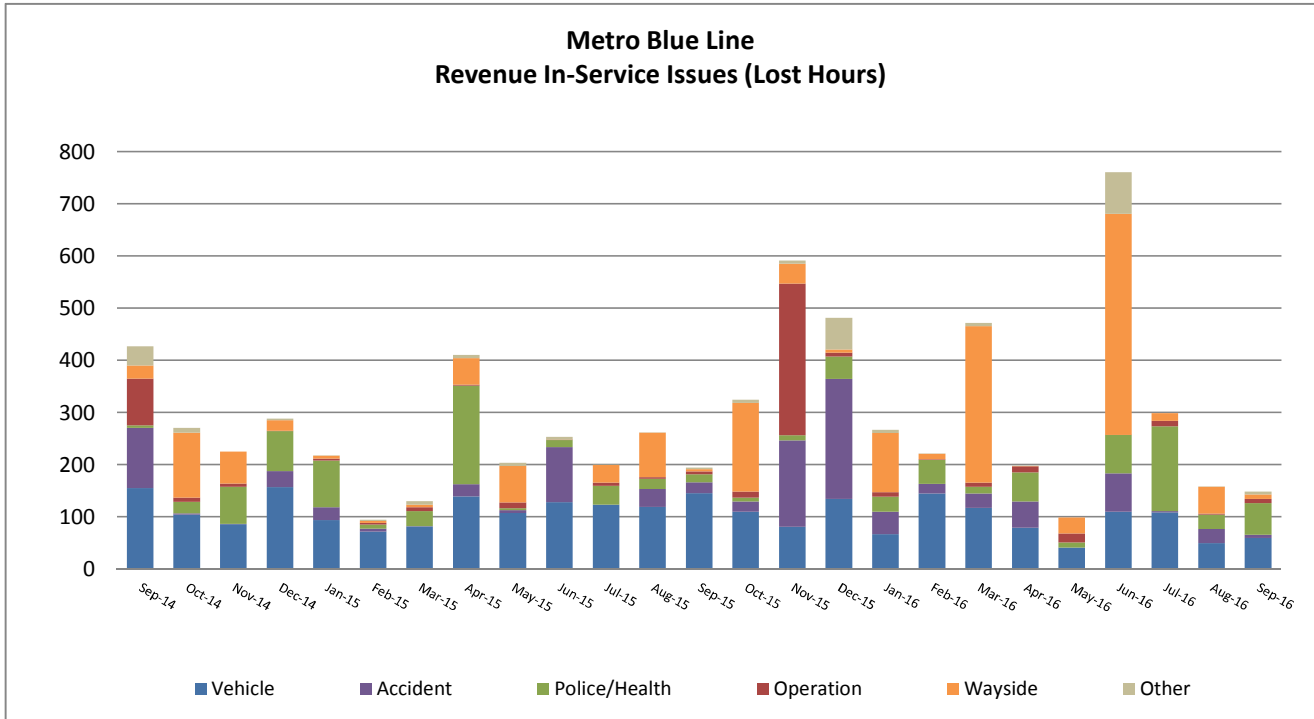
### IN-SERVICE ON-TIME PERFORMANCE CHART



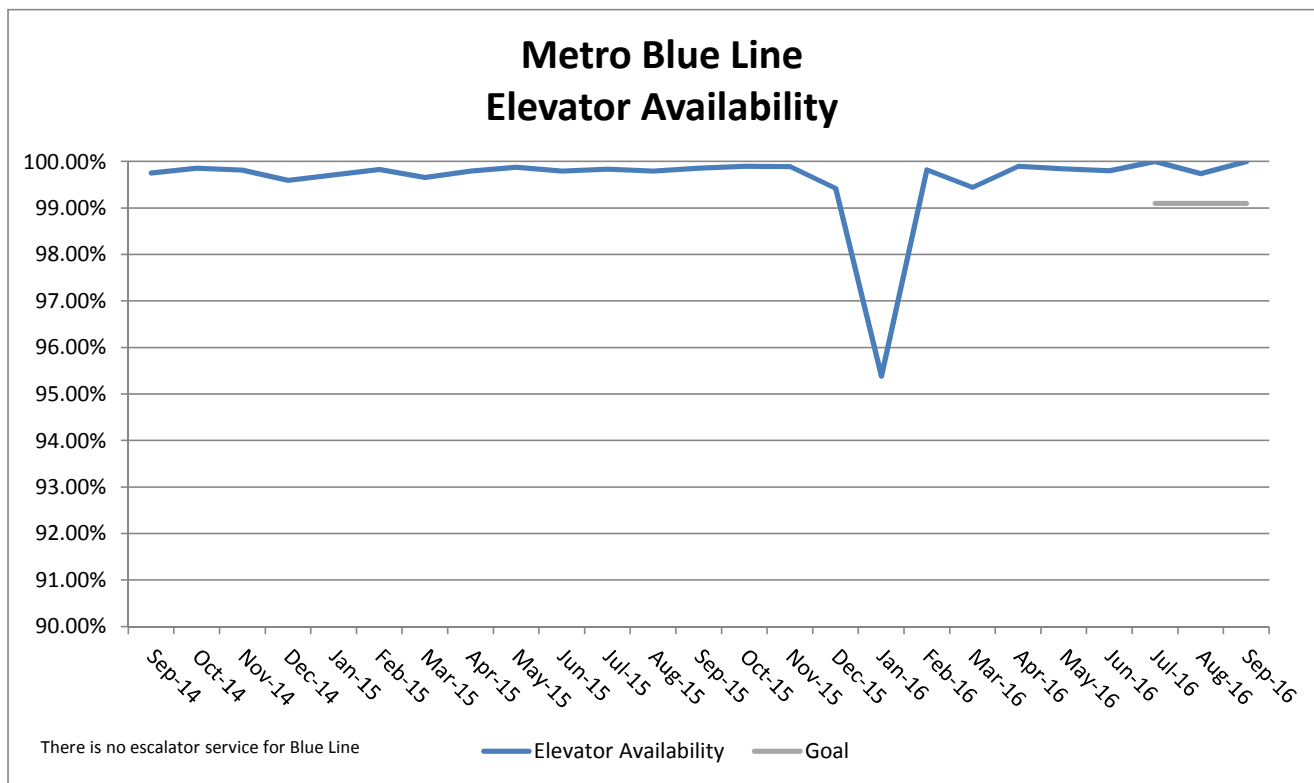
## LOST TRIPS



## LOST HOURS



## VERTICAL TRANSPORTATION AVAILABILITY



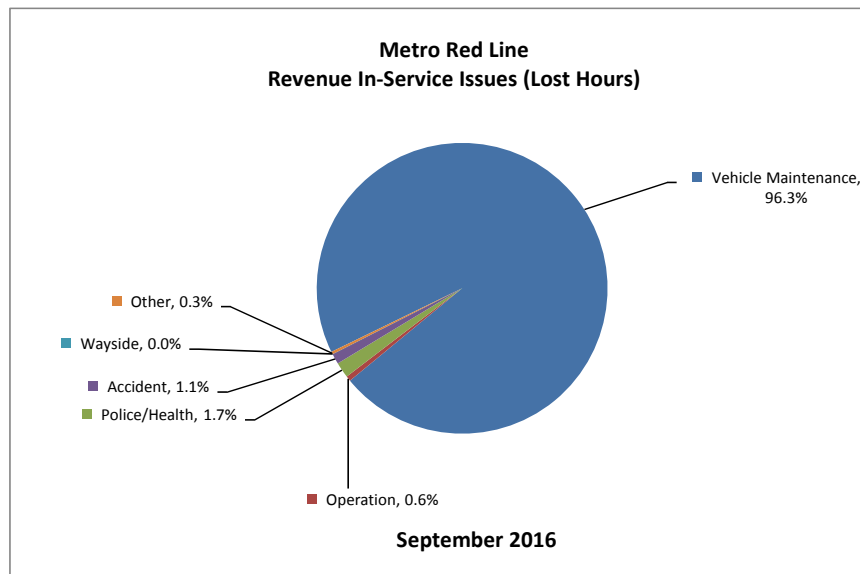
## RED LINE

Out of a total of 26,145 hours operated, there were approximately 29 total hours of service delays.

September 2016 Service Hours *	Revenue	
	Hours	Per Cent
Revenue Hours without Delays	26,116	99.9%
Hours Delayed	29	0.1%
<b>Total Revenue Hours</b>	<b>26,145</b>	<b>100.0%</b>

Summary of the major contributors:	Count	Hours	Per Cent
Operations	1	0.2	0.6%
Accidents	1	0.3	1.1%
Vehicle Maintenance	13	27.7	96.3%
Wayside	0	0.0	0.0%
Police & Health	3	0.5	1.7%
Other	1	0.1	0.3%
<b>Total</b>	<b>19</b>	<b>28.8</b>	<b>100.0%</b>

\* Data from M3 used to report Service Delays is under review for accuracy



## **September 2016 Red Line major delay contributors were as follows:**

### **Operations Incidents:**

**9/3/2016 12:43:00 AM - Incident# 2772715 (0 lost trips, 10 lost minutes)**

T-365 reports an individual on the train threatening patrons with a knife at Vermont Sunset AR west.

### **Accidents:**

**9/17/2016 7:14:00 AM - Incident# 2777875 (0 lost trips, 20 lost minutes)**

Train 205 reported and individual alleging to have been struck by one of our train.  
Civic Center Station, AR track.

### **Vehicle Maintenance Incidents:**

**9/1/2016 12:07:00 AM - Incident# 2771839 (3 lost trips, 448 lost minutes)**

Propulsion cut out indication, service brake and electric brake failure in car 595.

T-22

Train 214

Cars (595),596,539,540,533,534

Union Station AL WB.

**9/1/2016 3:12:00 PM - Incident# 2772220 (1 lost trip, 155 lost minutes)**

Report of heavy vibration departing station.

T-176

Train 213

Cars (565)-566-601-602-547-548

Union Station AL westbound.

**9/3/2016 6:00:00 AM - Incident# 2772741 (2 lost trips, 348 lost minutes)**

Jerky Propulsion

Train 207

T-007

Cars 513-514-503-504-519-526

Wilshire Western BR East

**9/12/2016 10:52:00 PM - Incident# 2776005 (0 lost trips, 9 lost minutes)**

Emergency brake application and doors will not open Car # 560

Universal City AL East

Train # 219 T-22

Car # 563-564-549-550-559-(560)

**9/17/2016 10:49:00 AM - Incident# 2777910 (1 lost trip, 174 lost minutes)**

No movement with propulsion failure.

Trains # 204

T-329

Cars # 579-580-595-596-545-(546).

W/Bound Westlake Station A/R Track.

**9/17/2016 8:03:00 PM - Incident# 2778000 (0 lost trips, 20 lost minutes)**

No power Car # 517 and 518, no movement.

Cross passage 49 AL East

Train # 210 Operator T-145

Car # (517)-(518)-501-502-519-526

**9/18/2016 12:12:00 PM - Incident# 2778113 (0 lost trips, 20 lost minutes)**

Flashing Cab Signals with Emergency Brake Application

Train 203

T-389

Cars 527-522-515-516-511-(512)

Wilshire Western BR East and Normandie BL East

**9/19/2016 12:44:00 PM - Incident# 2778478 (0 lost trips, 4 lost minutes)**

Auxiliary Power Failure Train line

Train 201

T-124

Cars (525)-524-503-504

Union Station AL West

**9/19/2016 5:59:00 PM - Incident# 2778585 (0 lost trips, 12 lost minutes)**

Train 217 T-004 received friction brake fault, unable to reset.

**9/20/2016 3:52:00 PM - Incident# 2779106 (0 lost trips, 8 lost minutes)**

Train 219 (551,552,543,544,573,574) T-064, Vermont Beverly, AR reports consist has no power, no movement.

**9/22/2016 6:52:00 PM - Incident# 2780061 (2 lost trips, 311 lost minutes)**

Report of propulsion and service brake failure.

T-418

Train 218

Cars (503-504)-527-(522)-519-526

Pershing Square AL eastbound.

**9/28/2016 6:19:00 PM - Incident# 2782502 (0 lost trips, 5 lost minutes)**

Report of flashing cab signal, emergency brake applications.

T-004

Train 217

Cars 591-592-573-574-575-(576)

7th/Metro AL eastbound

**9/29/2016 2:51:00 PM - Incident# 2782799 (1 lost trip, 149 lost minutes)**

Propulsion failure Auxiliary power failure.

Train 214

T-045

Cars 541 542 577 578 (581) (582)

Vermont Santa Monica AR Westbound

**Police & Health Incidents:**

**9/5/2016 12:09:00 PM - Incident# 2773196 (0 lost trips, 8 lost minutes)**

G-378 reports sick individual on board train 204, car 573 in apparent distress.

**9/9/2016 11:49:00 AM - Incident# 2774883 (0 lost trips, 9 lost minutes)**

Train 206 (599,600,537,538) T-523, 7th & Metro, AL reports she is unable to depart due to an irate female patron holding the doors.

**9/30/2016 6:49:00 AM - Incident# 2783076 (0 lost trips, 13 lost minutes)**

Trespasser observed on the AR right of way East of Vermont Beverly Station

**Other Incidents:**

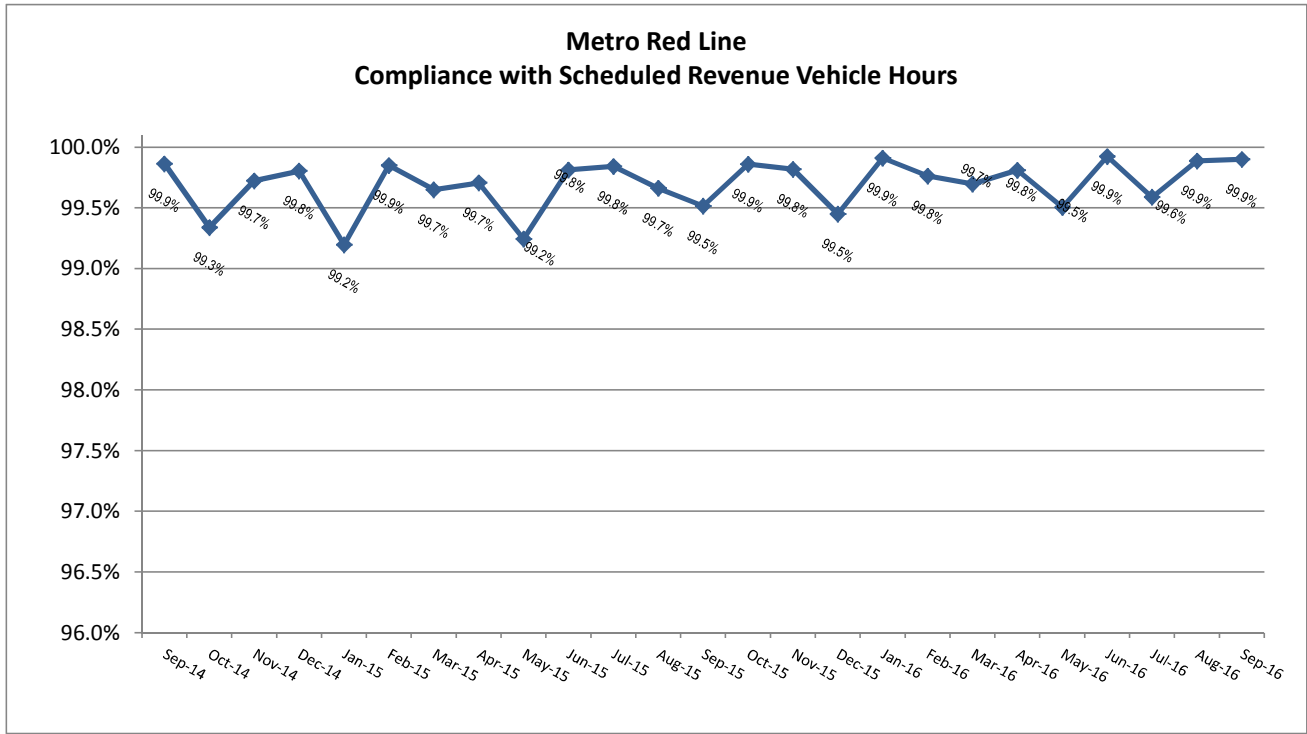
**9/9/2016 5:00:00 PM - Incident# 2775023 (0 lost trips, 5 lost minutes)**

TRACS indicate RTU failure.

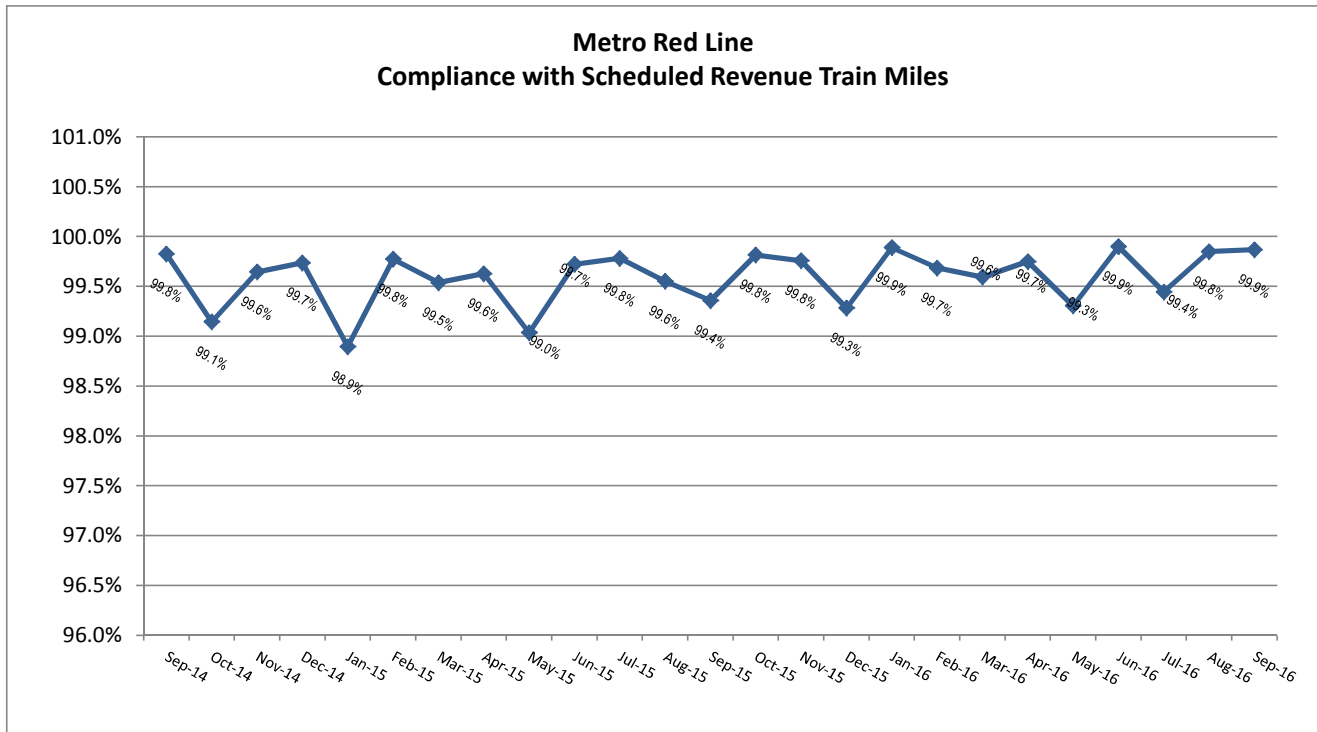


# MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

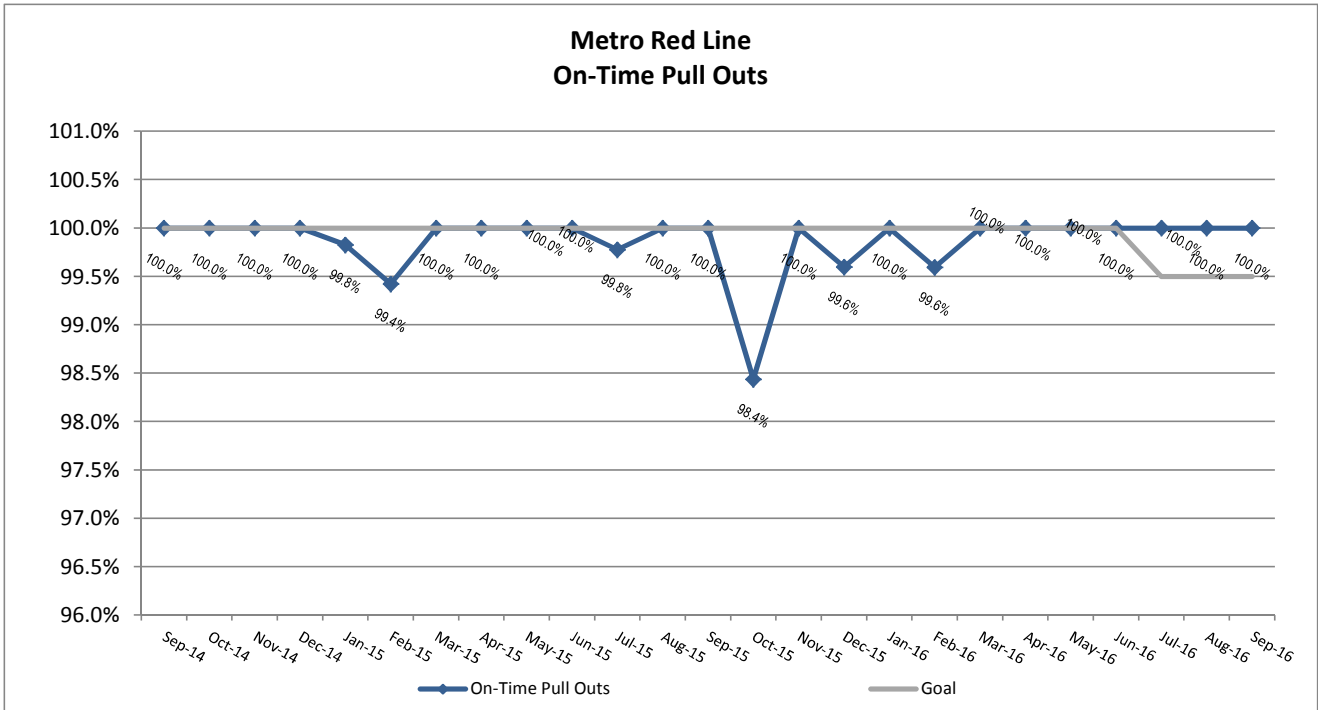
## COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART



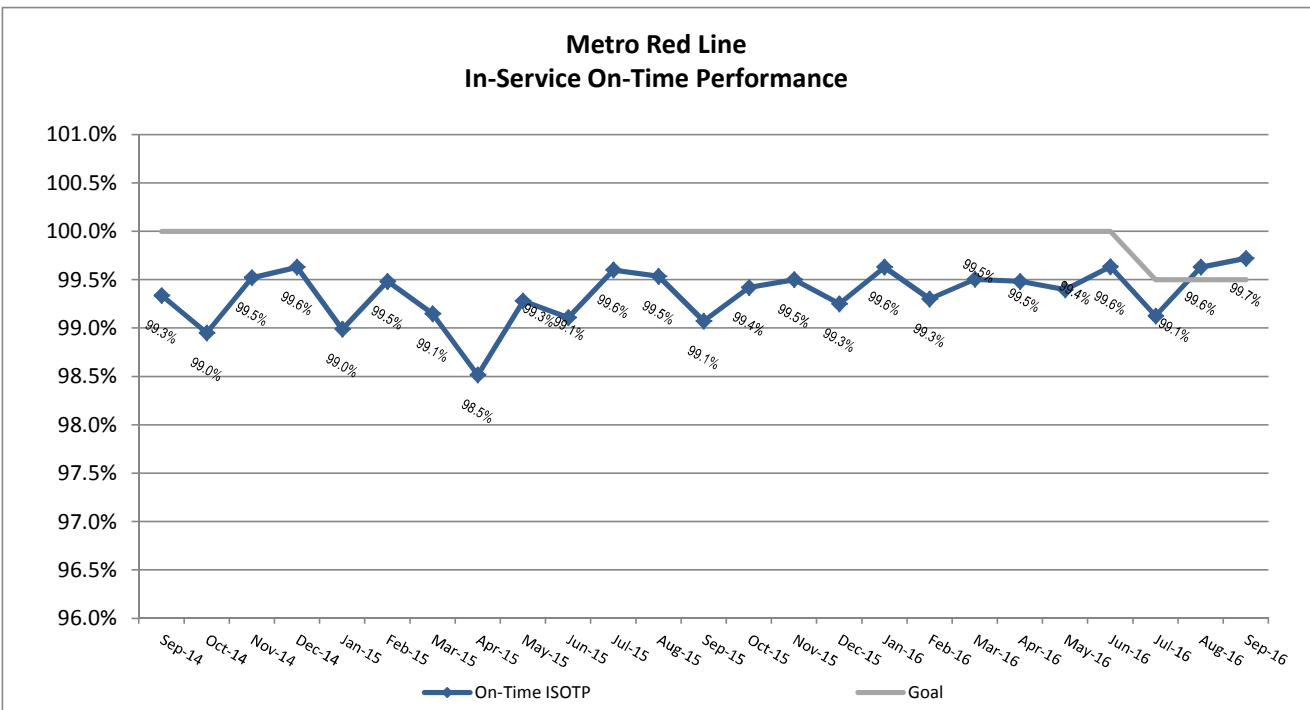
## COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



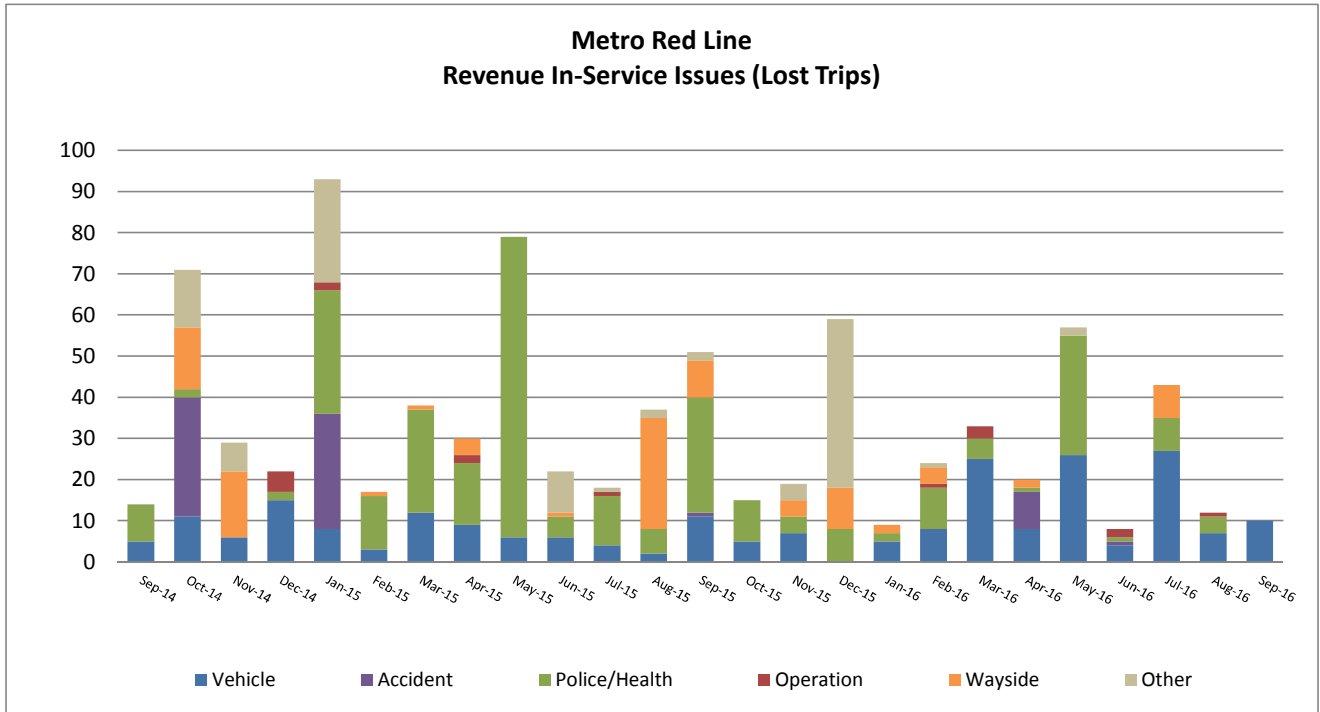
### ON-TIME PULL OUTS CHART



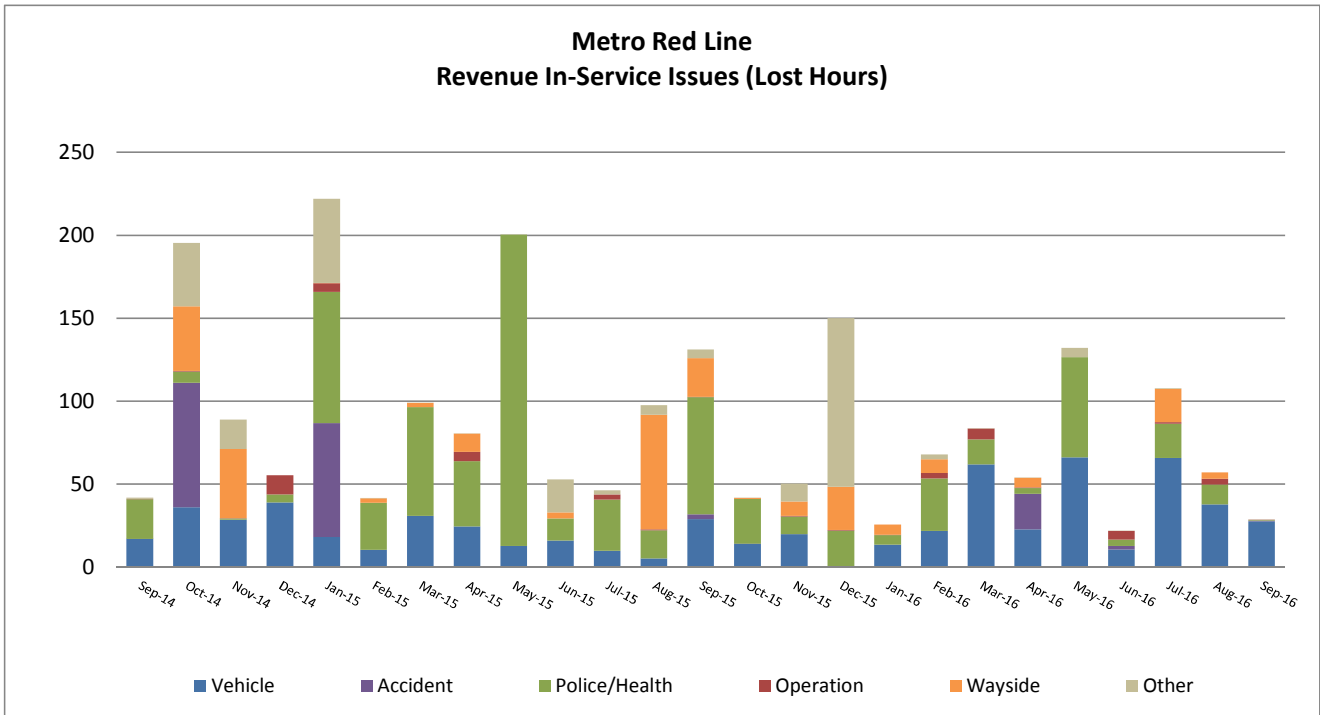
### IN-SERVICE ON-TIME PERFORMANCE CHART



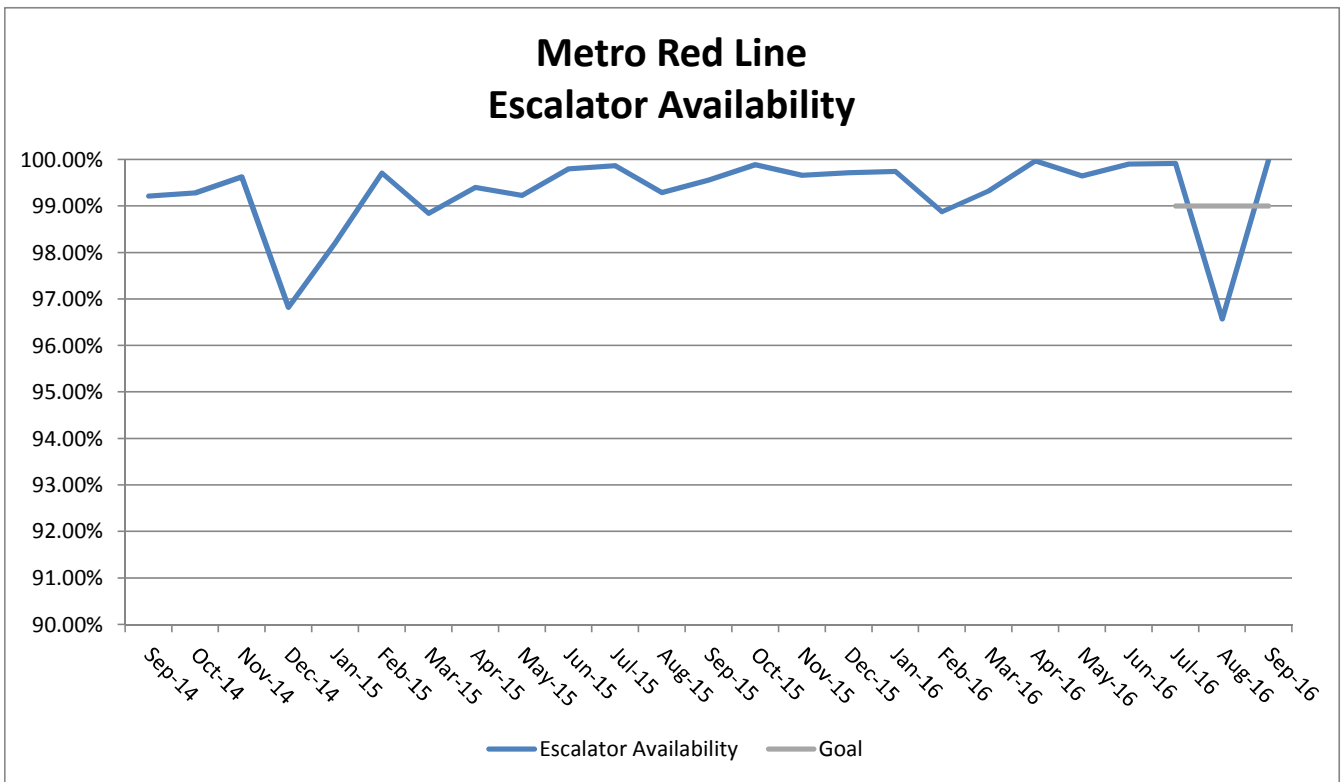
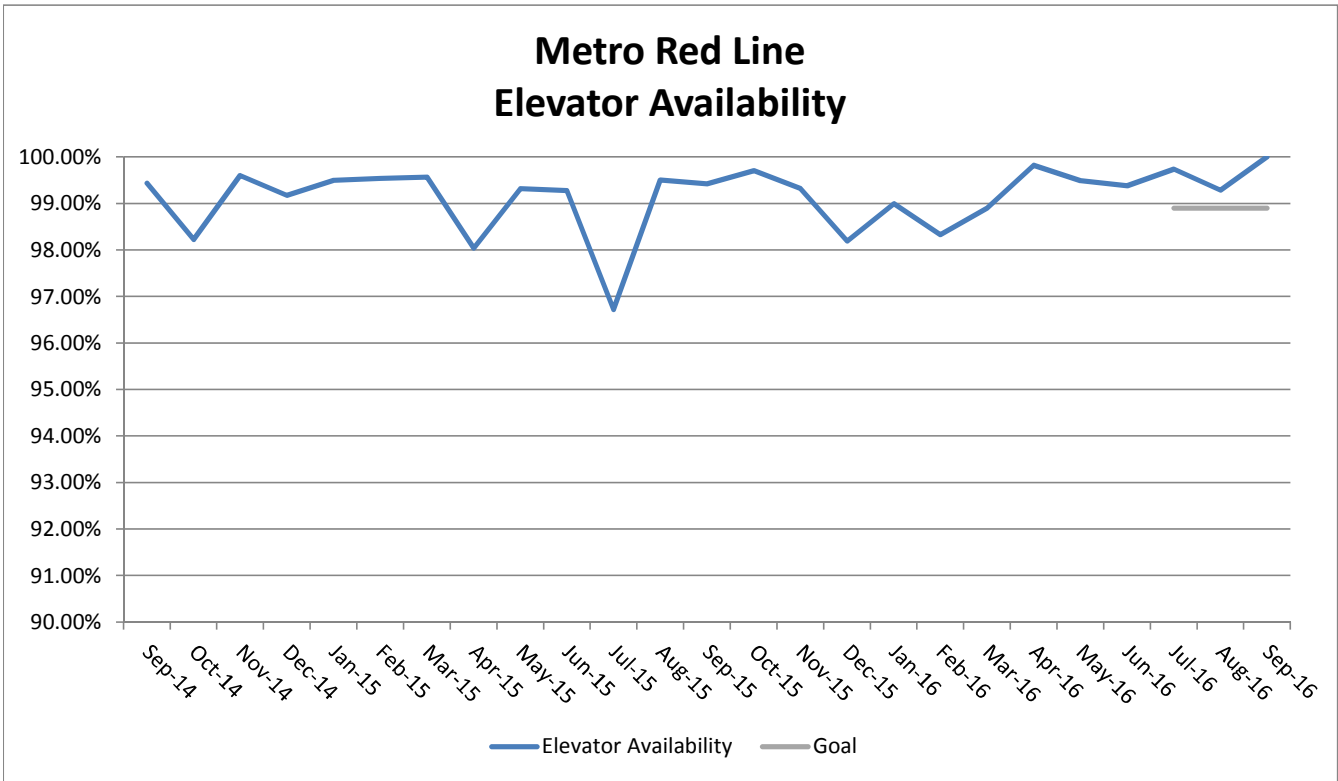
### LOST TRIPS



### LOST TRIPS



## VERTICAL TRANSPORTATION AVAILABILITY



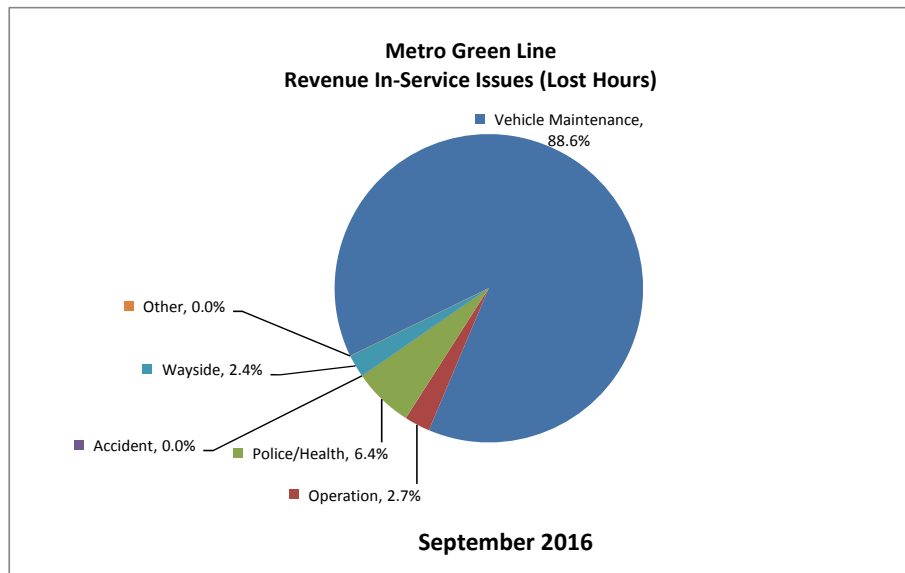
## GREEN LINE

Out of a total of 7,756 hours operated, there were approximately 37 total hours of service delays.

September 2016 Service Hours *	Revenue	
	Hours	Per Cent
Revenue Hours without Delays	7,719	99.5%
Hours Delayed	37	0.5%
<b>Total Revenue Hours</b>	<b>7,756</b>	<b>100.0%</b>

Summary of the major contributors:	Count	Hours	Per Cent
Operations	3	1.0	2.7%
Accidents	0	0.0	0.0%
Vehicle Maintenance	30	33.1	88.6%
Wayside	3	0.9	2.4%
Police & Health	2	2.4	6.4%
Other	0	0.0	0.0%
<b>Total</b>	<b>38</b>	<b>37.4</b>	<b>100.0%</b>

\* Data from M3 used to report Service Delays is under review for accuracy



## **September 2016 Green Line major delay contributors were as follows:**

### **Operations Incidents:**

**9/3/2016 9:20:00 AM - Incident# 2772792 (0 lost trips, 5 lost minutes)**

Management approved unscheduled Single Tracking.

**9/9/2016 5:10:00 AM - Incident# 2774707 (0 lost trips, 15 lost minutes)**

Train 344 out late due to no manpower.

**9/26/2016 12:40:00 PM - Incident# 2781173 (0 lost trips, 40 lost minutes)**

25 MPH speed restriction UFN Norwalk to Aviation both directions.

Trains delayed on all light rail lines due to heat advisories.

### **Vehicle Maintenance Incidents:**

**9/1/2016 5:46:00 PM - Incident# 2772272 (1 lost trip, 64 lost minutes)**

Car 227 no power/movement.

T-177

Train 354

Cars (227)-219

Mariposa Station, Track 2, eastbound.

**9/2/2016 4:40:00 AM - Incident# 2772354 (0 lost trips, 3 lost minutes)**

Friction brake faults/no movement

Train 344

LRV 218A/226

T-048

Yard Limits 76

**9/2/2016 5:49:00 PM - Incident# 2772651 (1 lost trip, 64 lost minutes)**

ATP failure on car 208B

T-255, train 354

(208)-214

Douglas, track 2, east

**9/3/2016 2:26:00 PM - Incident# 2772848 (0 lost trips, 5 lost minutes)**

Unable to cut out doors 7/8 (216A)-224

T-096

Train 331

Track 1

Norwalk station

Westbound

**9/3/2016 3:57:00 PM - Incident# 2772873 (0 lost trips, 8 lost minutes)**

Propulsion fault car 203-214

T-013

Train 332

Track 2

eastbound

Mariposa station

**9/3/2016 10:01:00 PM - Incident# 2772917 (0 lost trips, 9 lost minutes)**

Operator reports that after uncoupleing, Car 205 began losing air pressure.

Car 205

Train 331

T-247

Marine, TRK 2, eastbound.

**9/4/2016 2:31:00 AM - Incident# 2772936 (0 lost trips, 10 lost minutes)**

Friction Brakes not releasing.

Train #331.

T-112.

LRV-(204A), 207.

Yard Interface, Westbound.

**9/6/2016 5:23:00 PM - Incident# 2773714 (2 lost trips, 136 lost minutes)**

Doors (Track brake) , Cars #(222A)-211

Train #349

T-071

El Segundo Station, Track #001, Westbound.

**9/8/2016 7:25:00 AM - Incident# 2774364 (1 lost trip, 66 lost minutes)**

Propulsion fault with a speed restriction. ADU faults.

Train 341

T-96

219-209

EB, Marine Station, Track 2

**9/10/2016 4:36:00 PM - Incident# 2775227 (0 lost trips, 5 lost minutes)**

Propulsion / Dynamic Brakes, Cars #(222A)-207

Train #331

T-177

Vermont West interlocking, Track #002, Eastbound.

**9/11/2016 3:48:00 PM - Incident# 2775421 (0 lost trips, 4 lost minutes)**

Propulsion / Dynamic Brakes 205B

T-334

Train 334

LRV 205B-228

Marine Station, Track 2, Eastbound.

**9/11/2016 10:01:00 PM - Incident# 2775473 (0 lost trips, 14 lost minutes)**

Train 351 had Propulsion Faults in car 205

228-(205)

T-274

Lakewood Station Westbound Track #1.

**9/13/2016 4:59:00 AM - Incident# 2776055 (0 lost trips, 10 lost minutes)**

Reoccurring propulsion faults

Train 344

LRV 217A/215

T-177

Mariposa station track 2 eastbound

**9/13/2016 7:28:00 PM - Incident# 2776443 (0 lost trips, 15 lost minutes)**

Low Air Pressure, cars #(224B-207)

Train #361

T-105

Norwalk Station, Track #001, Northbound.

**9/13/2016 10:19:00 PM - Incident# 2776472 (2 lost trips, 132 lost minutes)**

Car 203 and 226 prop fault speed restriction

T-496

Consist(226A)203

Train349

Crenshaw Station, Eastbound, Track 2

**9/15/2016 11:21:00 AM - Incident# 2777141 (1 lost trip, 66 lost minutes)**

Train 335, Cars 225 and 202.

Douglas station, Track 2 east.

Prop fault and spin slide.

**9/15/2016 8:18:00 PM - Incident# 2777329 (1 lost trip, 77 lost minutes)**

Operator reports having a CCH indication on both Cars 220, 221.

Cars (220, 221)

Train 350

T-24

Marine, TRK 2, eastbound



**9/15/2016 11:52:00 PM - Incident# 2777367 (0 lost trips, 27 lost minutes)**

Operator reports losing air, and no movement on Car 205B.

Car 205B

Train 347

T-294

El Segundo TRK 2, eastbound

**9/16/2016 6:36:00 AM - Incident# 2777439 (1 lost trip, 64 lost minutes)**

Train 342, Cars 227 and 208.

Marine station, Track 2 east.

Prop fault with speed restriction.

**9/16/2016 9:06:00 PM - Incident# 2777806 (0 lost trips, 9 lost minutes)**

Operator reports friction brakes self applied departing the platform east.

Cars 207-(226)

Train 333

T-294

Marine TRk 2, esastbound.

**9/17/2016 4:57:00 AM - Incident# 2777847 (0 lost trips, 6 lost minutes)**

Self applying friction brakes, possible spin/slide condition.

Train # 331

T-085

Cars # 213-217

E/Bound Mariposa Station Track-2.

**9/18/2016 5:42:00 AM - Incident# 2778042 (0 lost trips, 5 lost minutes)**

Train 333, Cars 207 and 213.

Douglas station, track 2 east.

Friction brakes locked and prop fault.

**9/20/2016 7:51:00 AM - Incident# 2778776 (0 lost trips, 4 lost minutes)**

Propulsion faults wont clear

Train 334

LRV 221A/208

T-202

Crenshaw station track 1 westbound

**9/21/2016 6:38:00 AM - Incident# 2779286 (0 lost trips, 10 lost minutes)**

Propulsion faults wont clear

Train 346

LRV 222A/203

T-140

Crenshaw station track 2 eastbound

**9/21/2016 11:06:00 AM - Incident# 2779459 (0 lost trips, 1,020 lost minutes)**

No movement/ADU shows depressed mushroom

Train 333

LRV 220A/213

T-105

Wilmington West Pocket track 2 eastbound

**9/23/2016 7:45:00 AM - Incident# 2780232 (1 lost trip, 70 lost minutes)**

Train 342, Cars (207A) and 222.

Aviation Station, Track 1 west.

Prop fault with speed restriction.

**9/27/2016 4:38:00 AM - Incident# 2781490 (0 lost trips, 8 lost minutes)**

Car 221 friction brakes lock up in ATO mode

T-40

Train-342

Consist (221)205

Vermont West 2, Track 2, Eastbound

**9/27/2016 3:39:00 PM - Incident# 2781958 (0 lost trips, 5 lost minutes)**

Propulsion / Dynamic Brakes, cars #(223B)-220

Train #350

T-344

Norwalk Station, Track #001, Westbound.

**9/28/2016 7:45:00 AM - Incident# 2782189 (1 lost trip, 68 lost minutes)**

Doors hard to open

Train 334

LRV 223A/220

T-057

Lakewood station track 1 westbound

**9/28/2016 3:18:00 PM - Incident# 2782436 (0 lost trips, 4 lost minutes)**

Train overshot station

Lakewood Station

Westbound

Train 348

Car 213

### **Wayside Incidents:**

**9/18/2016 8:22:00 AM - Incident# 2778065 (0 lost trips, 6 lost minutes)**

OCS inspection and repairs.

**9/19/2016 1:11:00 AM - Incident# 2778226 (0 lost trips, 34 lost minutes)**

A06, B01, B11 & B12 open due to a broken hanger wire near YDI signal 8.

**9/19/2016 3:31:00 AM - Incident# 2778243 (0 lost trips, 13 lost minutes)**

Loss Power to Hawthorne TPSS due to power outage in the area.

### **Police & Health Incidents:**

**9/12/2016 3:11:00 PM - Incident# 2775781 (0 lost trips, 5 lost minutes)**

Assault, patron was hit with a cell phone, Cars #(216A)-211

Train #349

T-020

Crenshaw Station, Track #001, Eastbound.

**9/16/2016 9:46:00 PM - Incident# 2777812 (2 lost trips, 138 lost minutes)**

Female 10-390 non-responsive on car 249A

T-374

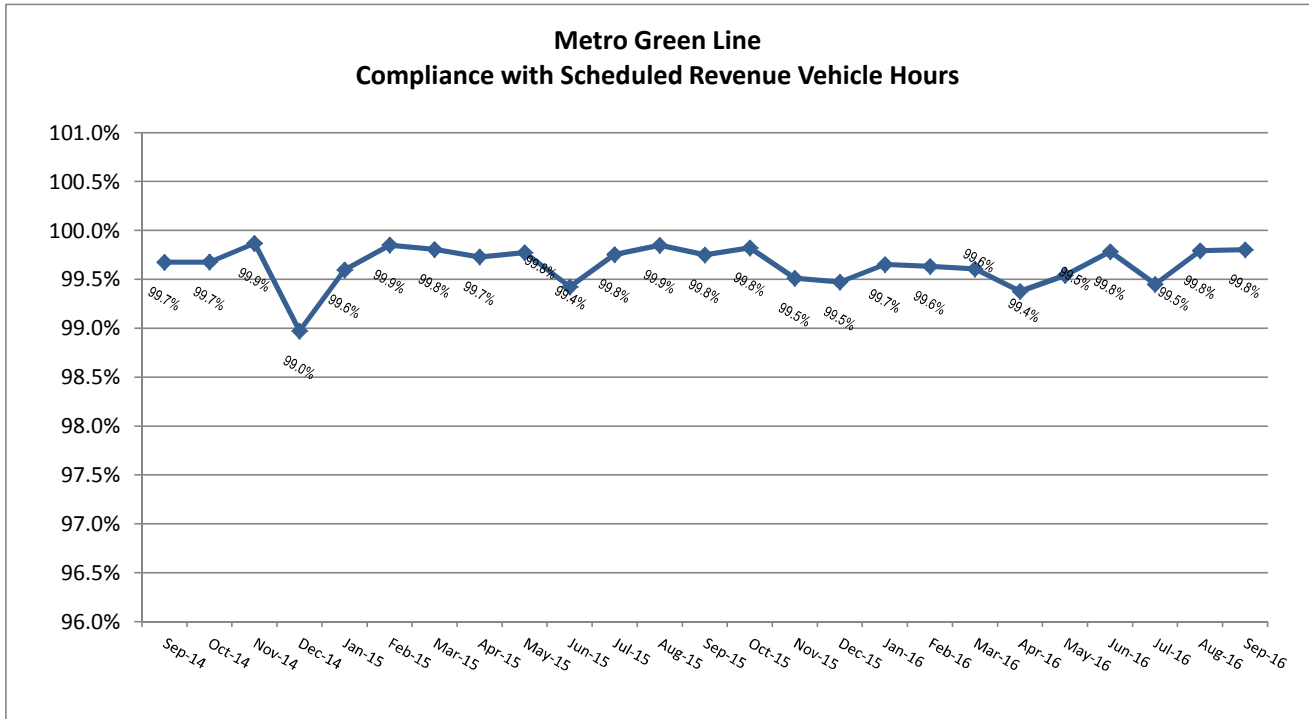
Train-605

Consist-239-301(249A)

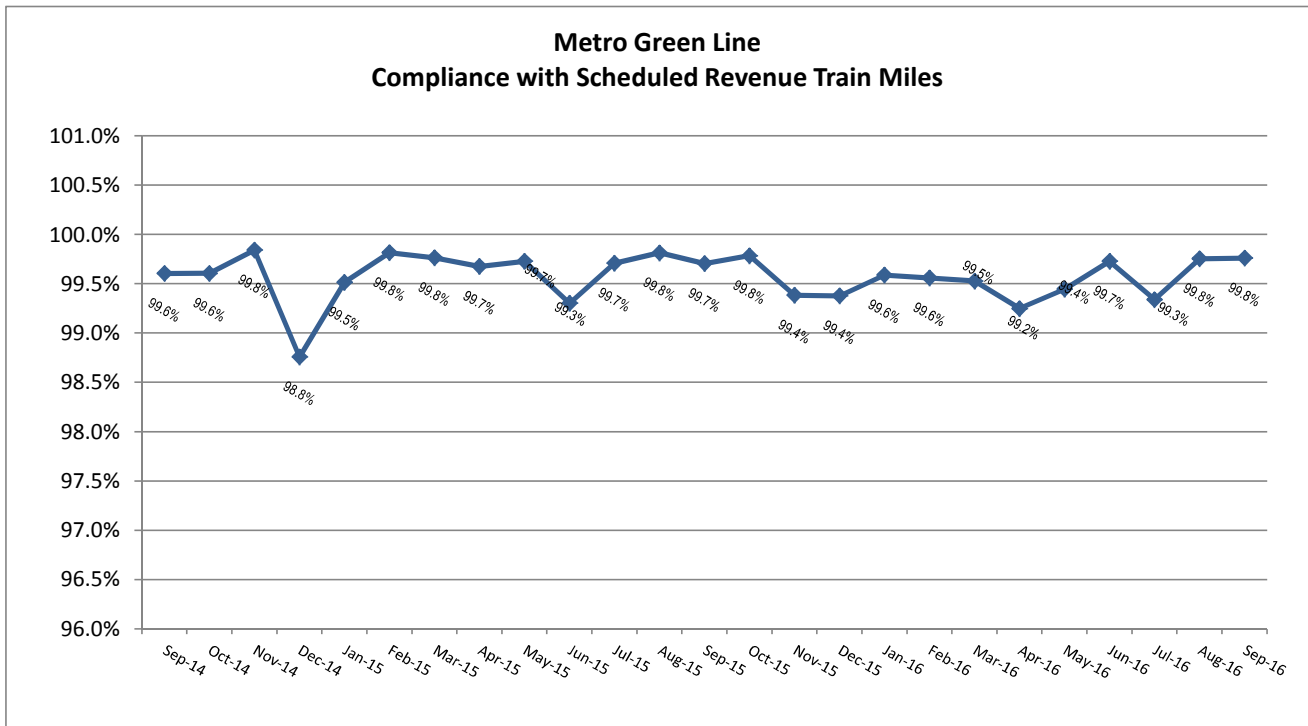
Vermont Station, Track #4, Southbound

# MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

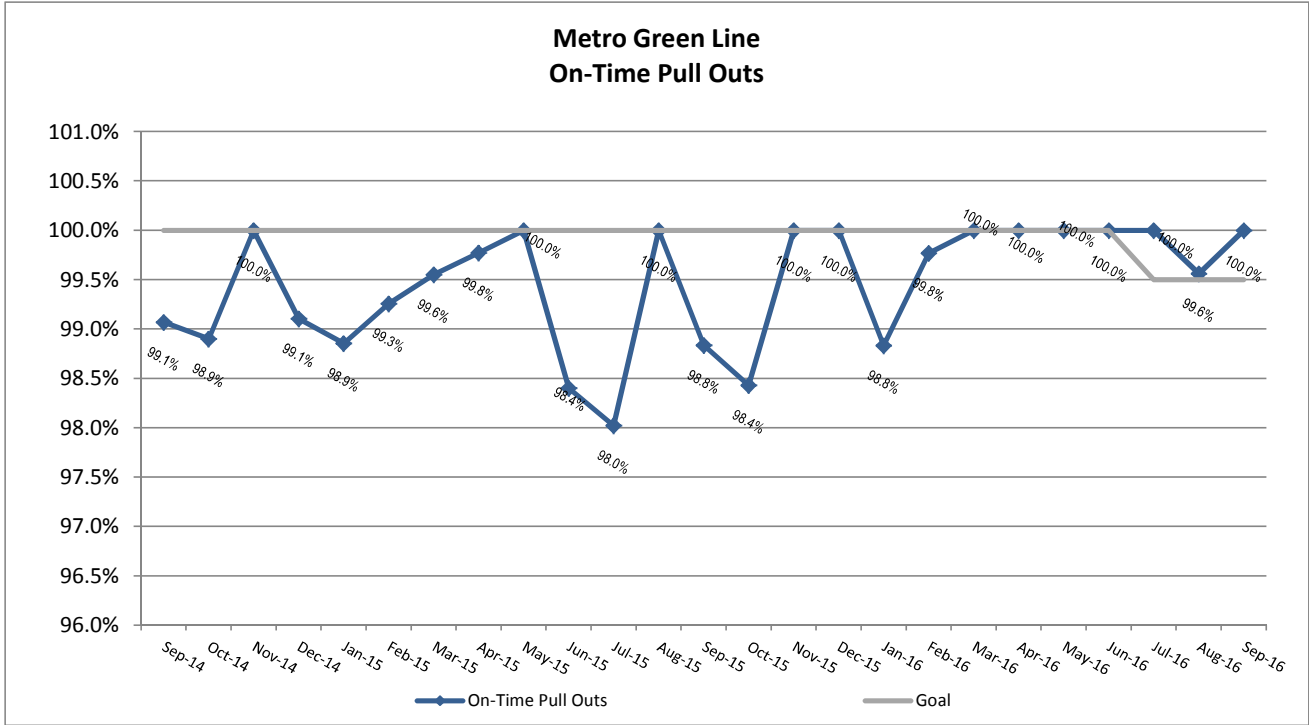
## COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART



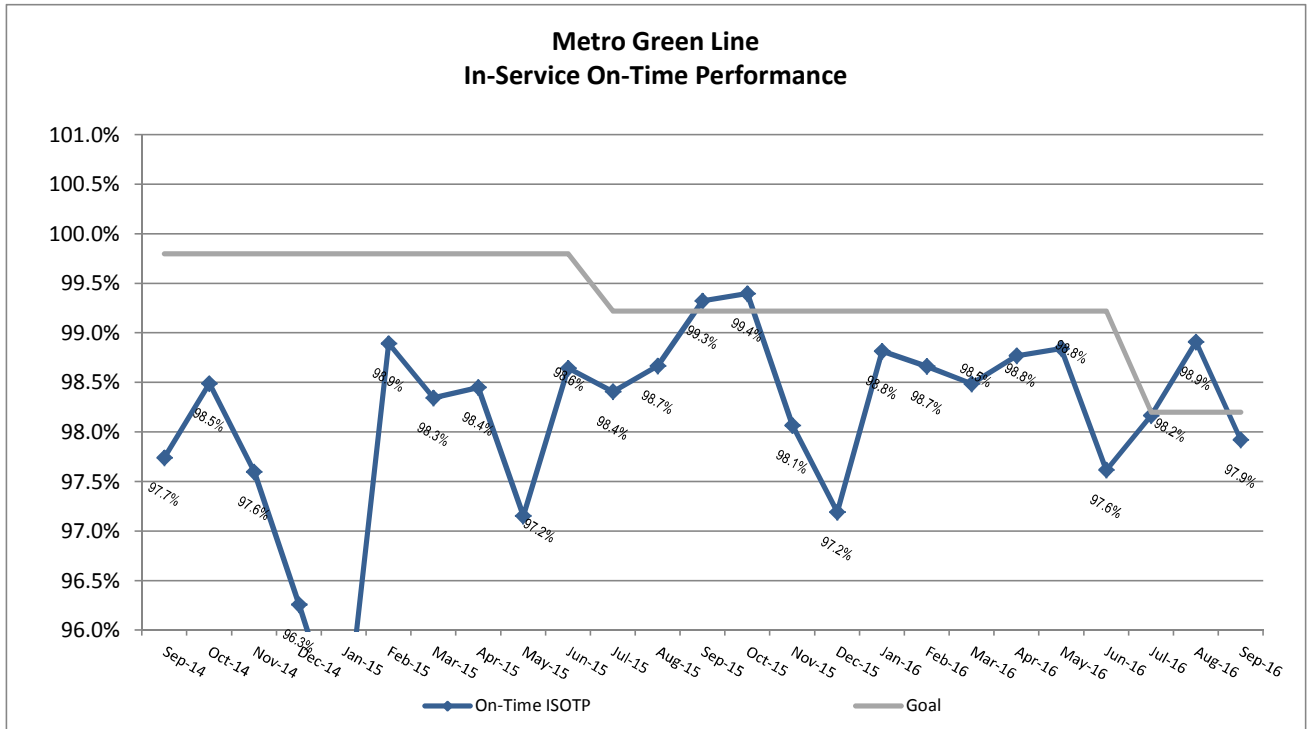
## COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



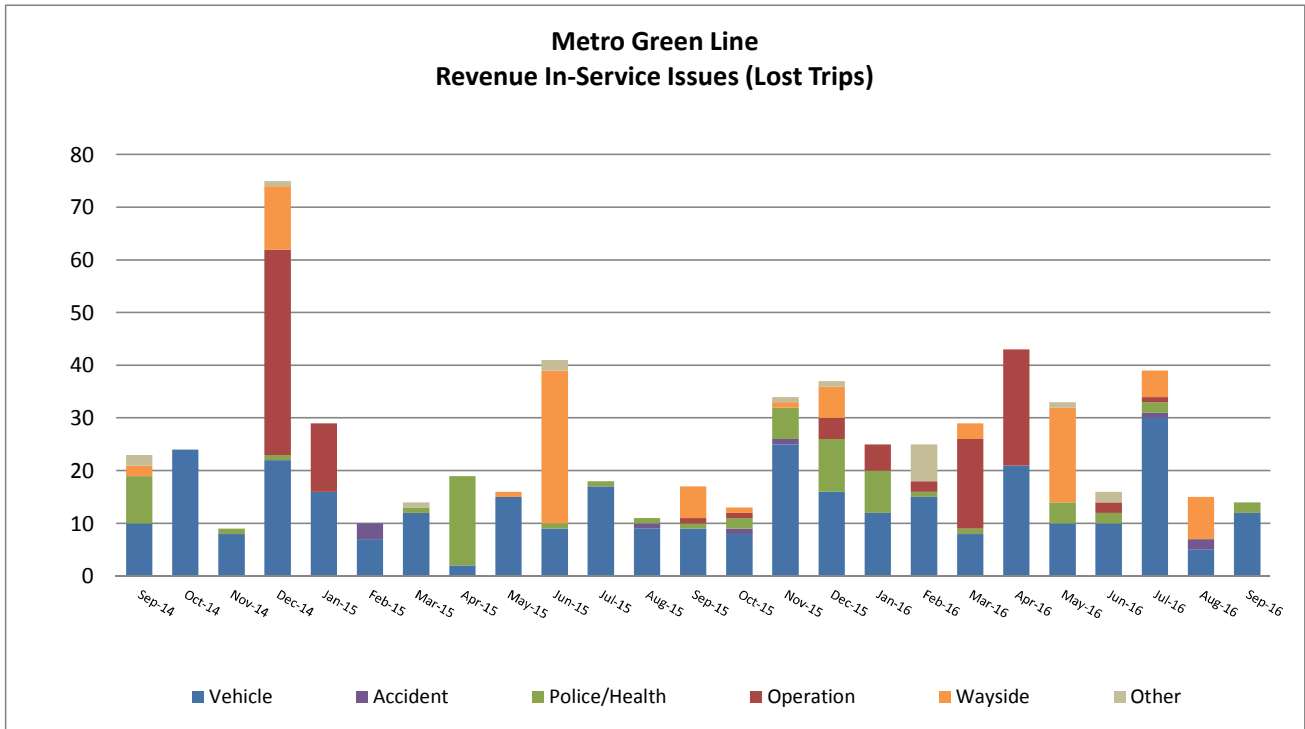
### ON-TIME PULL OUTS CHART



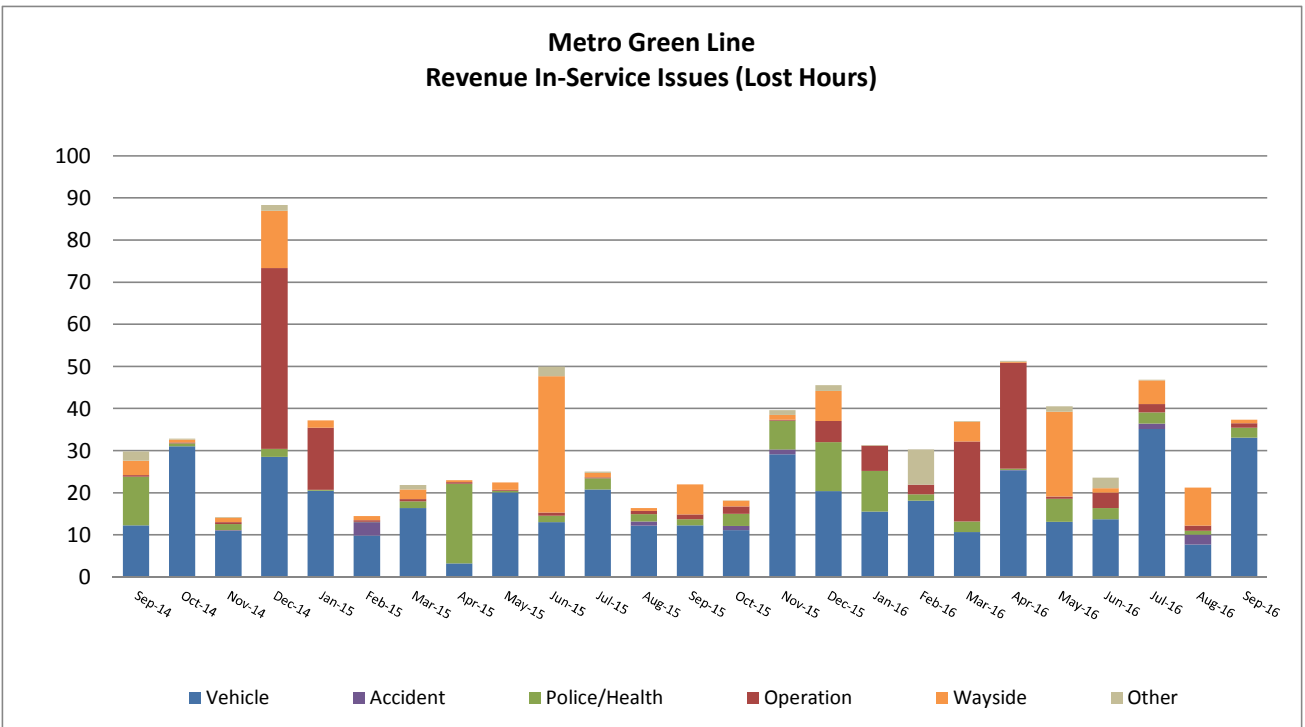
### IN-SERVICE ON-TIME PERFORMANCE CHART



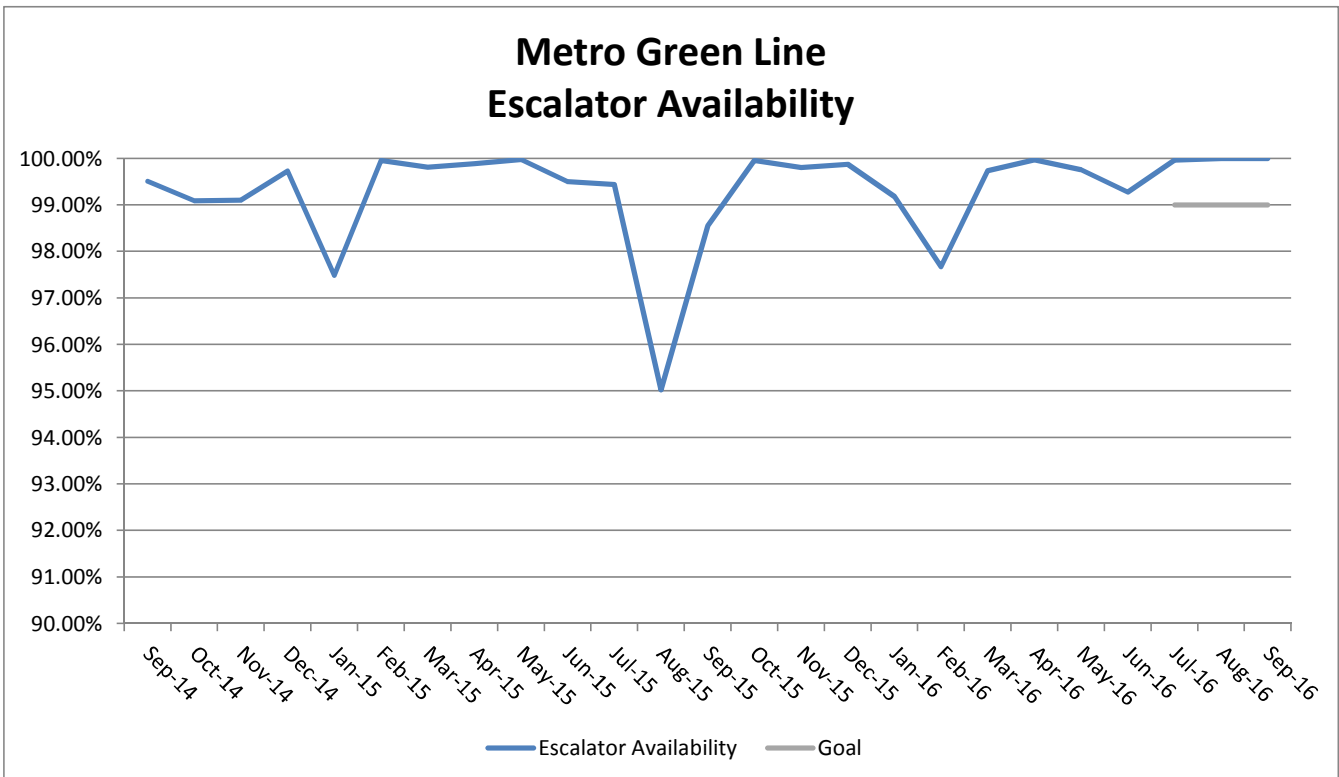
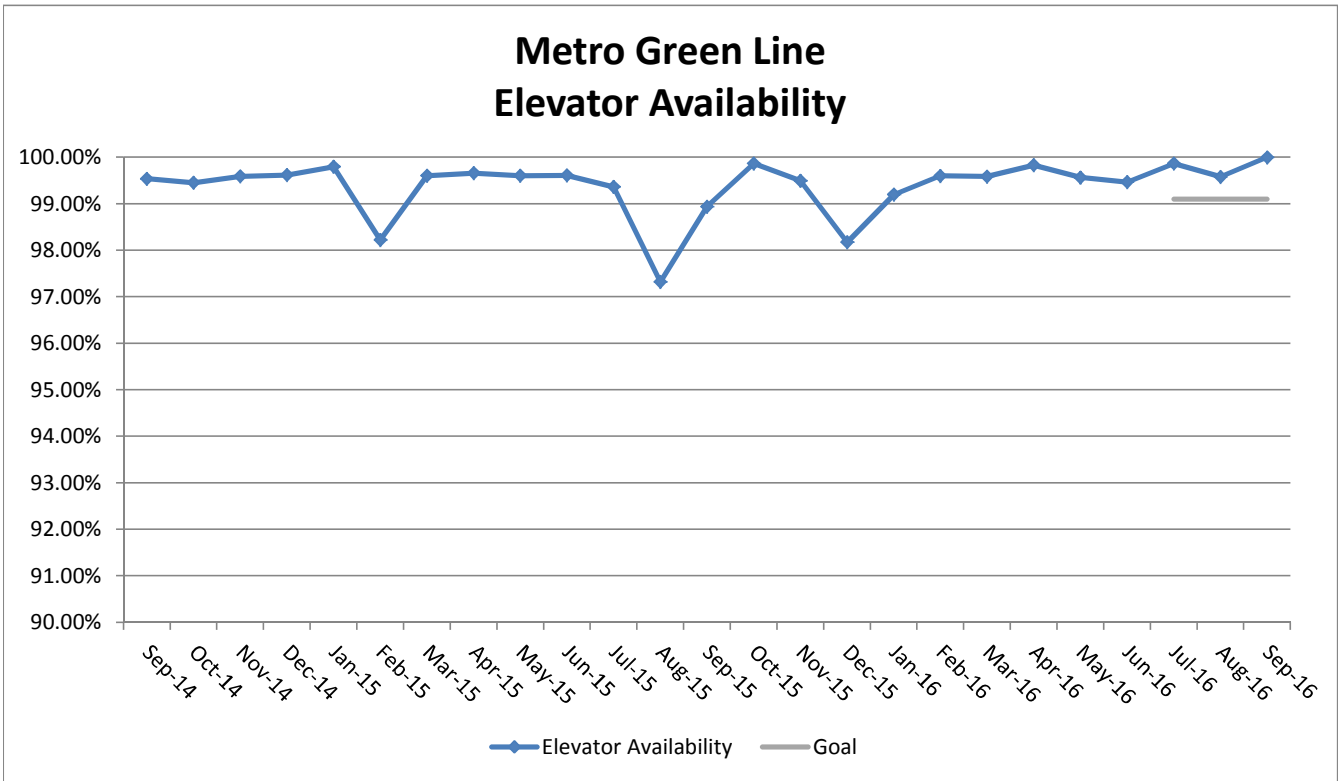
## LOST TRIPS



## LOST HOURS



## VERTICAL TRANSPORTATION AVAILABILITY



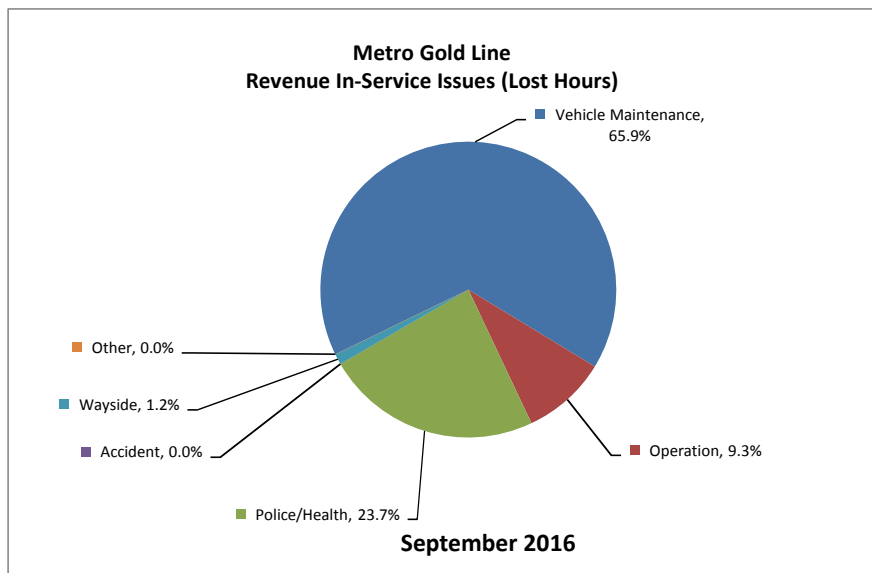
## GOLD LINE

Out of a total of 18,941 hours operated, there were approximately 84 total hours of service delays.

September 2016 Service Hours *	Revenue	
	Hours	Per Cent
Revenue Hours without Delays	18,856	99.6%
Hours Delayed	84	0.4%
<b>Total Revenue Hours</b>	<b>18,941</b>	<b>100.0%</b>

Summary of the major contributors:	Count	Hours	Per Cent
Operations	4	7.8	9.3%
Accidents	0	0.0	0.0%
Vehicle Maintenance	28	55.6	65.9%
Wayside	4	1.0	1.2%
Police & Health	9	20.0	23.7%
Other	0	0.0	0.0%
<b>Total</b>	<b>45</b>	<b>84.4</b>	<b>100.0%</b>

\* Data from M3 used to report Service Delays is under review for accuracy





## **September 2016 Gold Line major delay contributors were as follows:**

### **Operations Incidents:**

**9/9/2016 10:18:00 AM - Incident# 2774843 (1 lost trip, 224 lost minutes)**

Train 402 Trip cancelled from Atlantic station to Citrus due to excessive amounts of feces on the train. No gap trains or replacements available. Train Scheduled to depart 1018 hours, Follower train departed 1030.

**9/22/2016 8:19:00 PM - Incident# 2780075 (1 lost trip, 224 lost minutes)**

Dirty Car #739 Removed From Service

**9/23/2016 8:10:00 AM - Incident# 2780236 (0 lost trips, 6 lost minutes)**

Atlantic Interlocking , Track 2. Signal 4N Overran.

T-447

Train 403

LRV (713B) 749

Atlantic Station, Track 2, northbound.

**9/27/2016 11:46:00 AM - Incident# 2781687 (0 lost trips, 15 lost minutes)**

10 minutes delay do to single tracking.

### **Vehicle Maintenance Incidents:**

**9/1/2016 7:42:00 PM - Incident# 2772287 (1 lost trip, 230 lost minutes)**

HSCB and Propulsion fault in car 707B.

T-63

Train 424

Cars 701-(707B)

Departing Citrus Station Track 2 SB.

**9/2/2016 4:24:00 PM - Incident# 2772637 (1 lost trip, 229 lost minutes)**

Train 401 (1005-1008) T-228, Monrovia Station, track 2 reports no movement.

**9/3/2016 4:46:00 AM - Incident# 2772746 (0 lost trips, 18 lost minutes)**

HSCB Trip LRV 741-738

T-470

Train 405

LRV 741-738

Irwindale Station, Track 2, southbound.

**9/4/2016 10:13:00 PM - Incident# 2773093 (0 lost trips, 15 lost minutes)**

Propulsion fault on consist (715)743.

Arcadia Station

Train #401, T-467, track #2, southbound.

**9/7/2016 1:00:00 PM - Incident# 2774112 (1 lost trip, 226 lost minutes)**

HSCB unable to clear no movement.

Train #406 T-019 car #726B-735

Azusa Citrus southbound.

**9/7/2016 3:30:00 PM - Incident# 2774159 (0 lost trips, 7 lost minutes)**

Train 405 (1010-1013) T-432, approaching Irwindale Station, track 2 reports reoccurring propulsion and HVAC fault, unable to proceed above 35MPH.

**9/9/2016 5:16:00 PM - Incident# 2775014 (2 lost trips, 448 lost minutes)**

Train 428 (1015-1012) T-111, Ditman Interlocking, track 1 reports minimal propulsion operating out of car 1015 with no fault indications.

**9/11/2016 6:05:00 AM - Incident# 2775317 (0 lost trips, 9 lost minutes)**

Train 405 (717,740) T-129, Civic Ctr Station, track 1 reports various faults, momentary loss of propulsion, loss of radio.

**9/13/2016 8:30:00 AM - Incident# 2776169 (1 lost trip, 224 lost minutes)**

No fault no movement

Train 451 (703),706

T-19

Atlantic Station north.

**9/13/2016 5:45:00 PM - Incident# 2776419 (0 lost trips, 6 lost minutes)**

(1007)-1006

Train# 408

No Movement

NB Little Tokyo

T-425

**9/13/2016 7:52:00 PM - Incident# 2776452 (1 lost trip, 224 lost minutes)**

(740)-714

Train 424

Propulsion Fault/Speed Restriction

SB Downtown Azusa

T-11

**9/14/2016 2:56:00 PM - Incident# 2776765 (0 lost trips, 9 lost minutes)**

Propulsion Code Fault

716 - 739B

Train 406

T-128

Lincoln / Cypress Station, northbound

**9/15/2016 10:09:00 AM - Incident# 2777116 (0 lost trips, 8 lost minutes)**

Propulsion / Dynamic Brakes LRV 1010  
T-019  
Train 404  
LRV 1005 (1010)  
Duarte Station, southbound, Track2.

**9/15/2016 12:53:00 PM - Incident# 2777184 (0 lost trips, 8 lost minutes)**

(1013)-1009  
Train 405  
HSCB Fault No Movement  
SB Citrus Station  
T-178

**9/15/2016 7:20:00 PM - Incident# 2777311 (1 lost trip, 224 lost minutes)**

(1005)-1010  
Train 404  
Propulsion Fault/Speed Restriction  
NB Soto Station  
T-158

**9/20/2016 6:03:00 PM - Incident# 2779148 (0 lost trips, 10 lost minutes)**

Doors 3/4 and 5/6 will not close (737A)747.  
Chinatown Station  
Train #401, T-499, track #2, northbound.

**9/22/2016 3:26:00 PM - Incident# 2779988 (0 lost trips, 6 lost minutes)**

While conducting a LOCAL RESET the left bank doors opened on LRV 1006-1007  
T-340  
Train 419  
LRV (1006- 1007)  
Lincoln/Cypress Station, Track 1, northbound.

**9/22/2016 11:06:00 PM - Incident# 2780102 (0 lost trips, 20 lost minutes)**

Train 431  
Car 723 Low Air Pressure no movement  
First and Mission St, ELA

**9/26/2016 5:56:00 AM - Incident# 2780947 (1 lost trip, 229 lost minutes)**

Train 427, Cars 749 and (750).  
Irwindale Station southbound on Track 2.  
No headlights

**9/26/2016 2:30:00 PM - Incident# 2781316 (0 lost trips, 8 lost minutes)**

Train 403 (1009,1010) T-180 departing Atlantic Station, track 1 reports propulsion fault, unable to operate above 35MPH and no AC in either car. Train had various faults on the southbound trip.

**9/26/2016 4:41:00 PM - Incident# 2781361 (1 lost trip, 227 lost minutes)**

Train 437 (736,747) T-466, departing APU reports propulsion fault car 736.

**9/26/2016 5:00:00 PM - Incident# 2781383 (0 lost trips, 15 lost minutes)**

Train 404 (1009-1010) T-063, Little Tokyo Station, track 1 reports emergency brakes applied, no movement.

**9/26/2016 5:30:00 PM - Incident# 2781381 (0 lost trips, 20 lost minutes)**

Train 402 (1013,1012) T-036, departing Atlantic Station, track 1 reports propulsion failure.

**9/29/2016 5:00:00 AM - Incident# 2782592 (2 lost trips, 448 lost minutes)**

Dirty LRV 726 human waste

T-128

Train 401

LRV (726) 728

Atlantic Station, Track 1, northbound.

**9/29/2016 6:20:00 AM - Incident# 2782637 (0 lost trips, 7 lost minutes)**

Propulsion / Dynamic Brakes LRV 733-736

T-304

Train # 455

LRV 733-736

Sierra Madre Station, Track 2, southbound.

**9/29/2016 9:25:00 AM - Incident# 2782720 (1 lost trip, 231 lost minutes)**

Auto Train Protection (Speed Limit) LRV 1007-1008

T-108

Train 404

LRV 1007-1008

Little Tokyo Station, Track 1, northbound.

**9/29/2016 6:18:00 PM - Incident# 2782898 (1 lost trip, 224 lost minutes)**

LVPS failure on consist (726)728.

Atlantic Station

Train #431, T-205, track #1, northbound.

**9/30/2016 8:11:00 PM - Incident# 2783372 (0 lost trips, 7 lost minutes)**

Propulsion failure on consist (1015)1010.

Chinatown Station

Train #405, T-243, track #1, northbound.

### **Wayside Incidents:**

**9/13/2016 10:44:00 AM - Incident# 2776214 (0 lost trips, 17 lost minutes)**

TP-147 and crew requests access to the right of way track 1 Soto to Maravilla Station with a Hi-Rail vehicle. Emergency fan maintenance.

**9/22/2016 6:24:00 AM - Incident# 2779731 (0 lost trips, 15 lost minutes)**

train #413 reports Signal at 2S at citrus interlocking unable to clear , late departures.

**9/25/2016 3:22:00 PM - Incident# 2780823 (0 lost trips, 12 lost minutes)**

ARINC shows deenergized track between Highland Park Station and Indiana Siding with open A-01, B-01 Ave 50 TPSS, B-12, B-13 Monterey, B-14,B-15 French Ave.

**9/27/2016 2:04:00 PM - Incident# 2781915 (0 lost trips, 15 lost minutes)**

Track Department request emergency single tracking due to missing track bolt on track #2. Allen Interlocking.

### **Police & Health Incidents:**

**9/1/2016 11:58:00 PM - Incident# 2772322 (0 lost trips, 20 lost minutes)**

Del Mar Station Track #1

**9/3/2016 6:34:00 PM - Incident# 2772896 (1 lost trip, 224 lost minutes)**

T-186 Reported an Assault on Train 409 NB at Monrovia

**9/4/2016 4:30:00 PM - Incident# 2773057 (0 lost trips, 6 lost minutes)**

LASD Instructed Control to Hold Train 410 at Downtown Azusa

**9/8/2016 9:16:00 PM - Incident# 2774662 (0 lost trips, 4 lost minutes)**

Del Mar Station

**9/11/2016 6:37:00 PM - Incident# 2775453 (0 lost trips, 12 lost minutes)**

Non-MTA Traffic Accident 1st and Mission

**9/14/2016 5:23:00 PM - Incident# 2776893 (0 lost trips, 2 lost minutes)**

Train 429 northbound reports a non-MTA vehicular accident fouling track 2 at Ditman interlocking.

**9/20/2016 3:59:00 PM - Incident# 2779120 (0 lost trips, 22 lost minutes)**

LASD requests southbound to hold due to a person with a possible knife.

Highland Park Station

Train #427, T-207, track #2, southbound.

Consist 714-739.

**9/27/2016 5:02:00 PM - Incident# 2781997 (0 lost trips, 900 lost minutes)**

Vehicle is stuck on track #1.

3rd/Eastman.

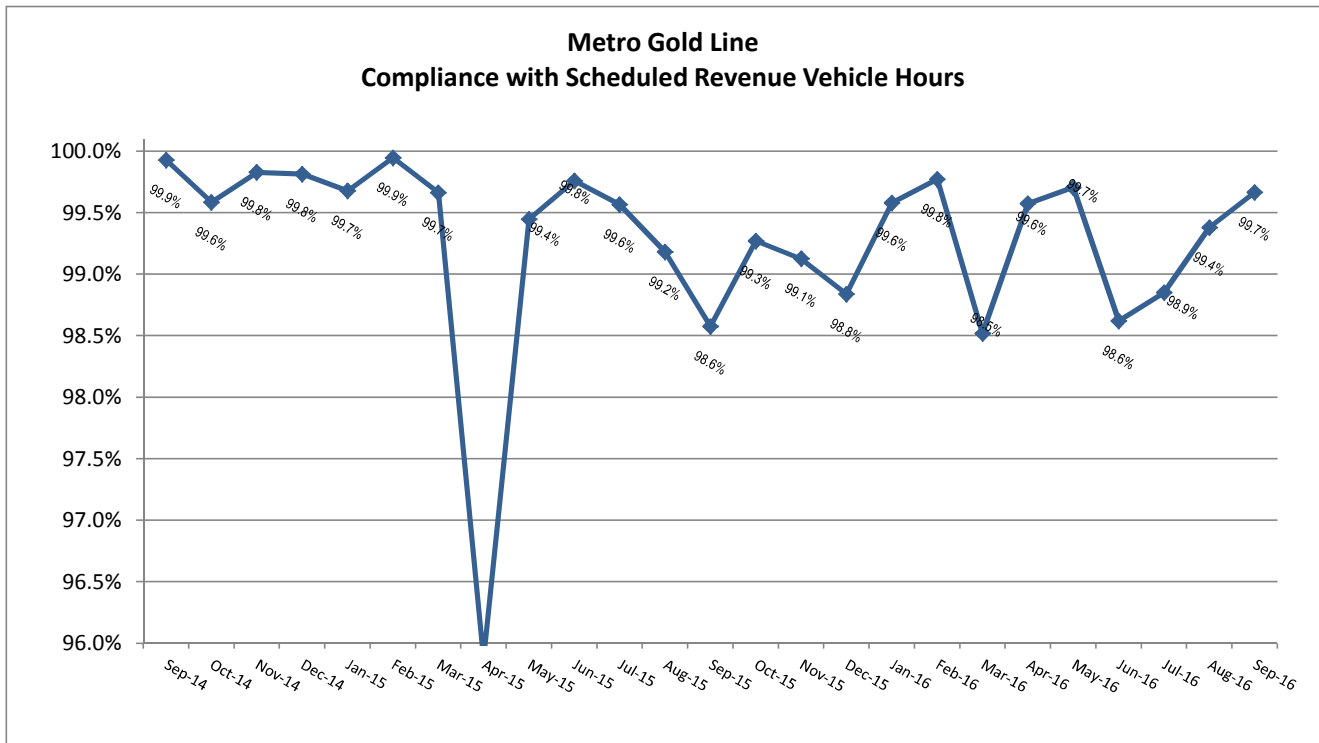
**9/30/2016 4:52:00 PM - Incident# 2783340 (0 lost trips, 7 lost minutes)**

Blockade, vehicle blocking both tracks.

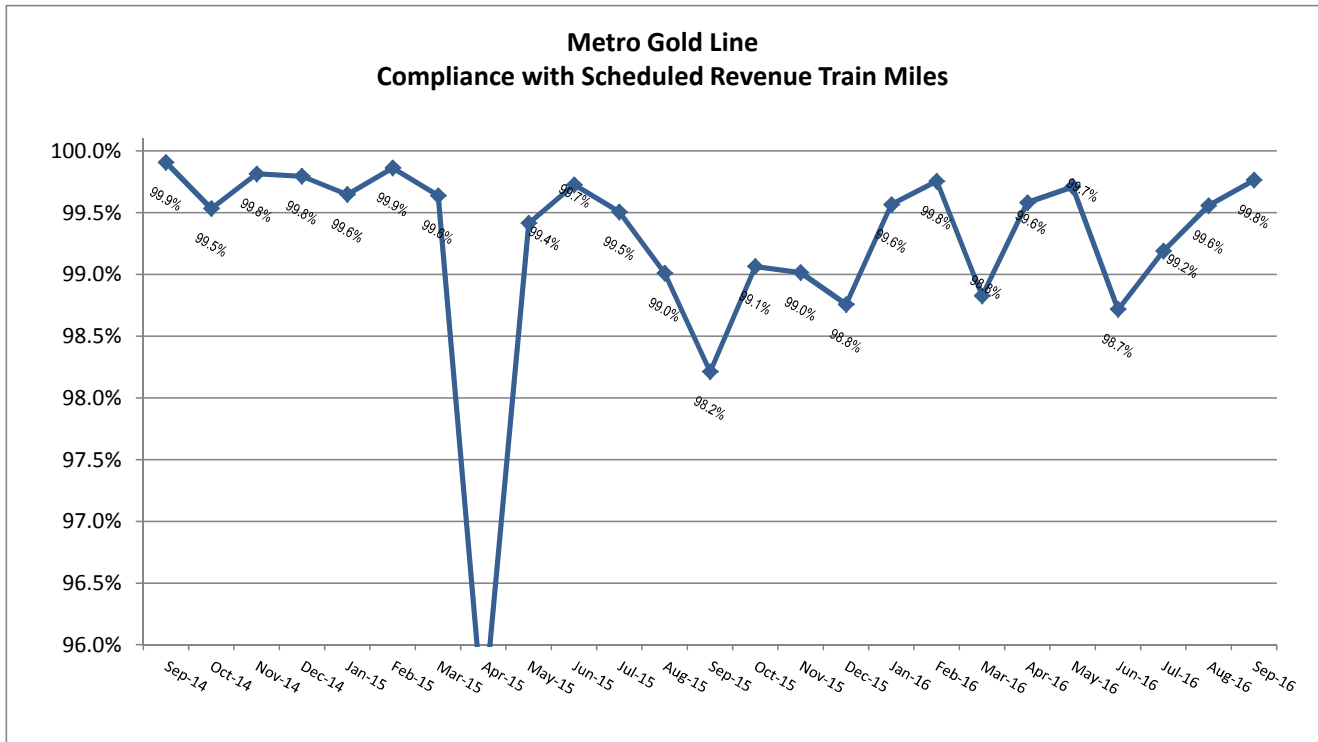
Fremont Grevelia grade crossing

# MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

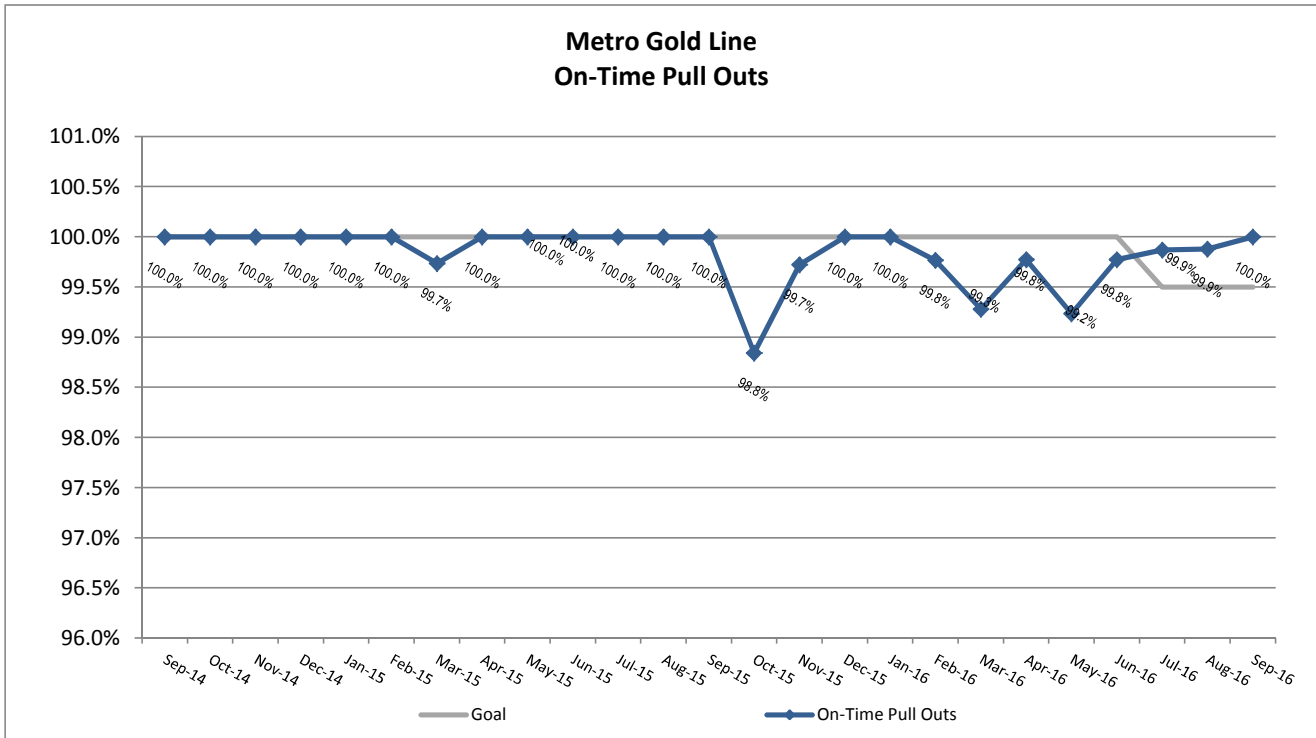
## COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART



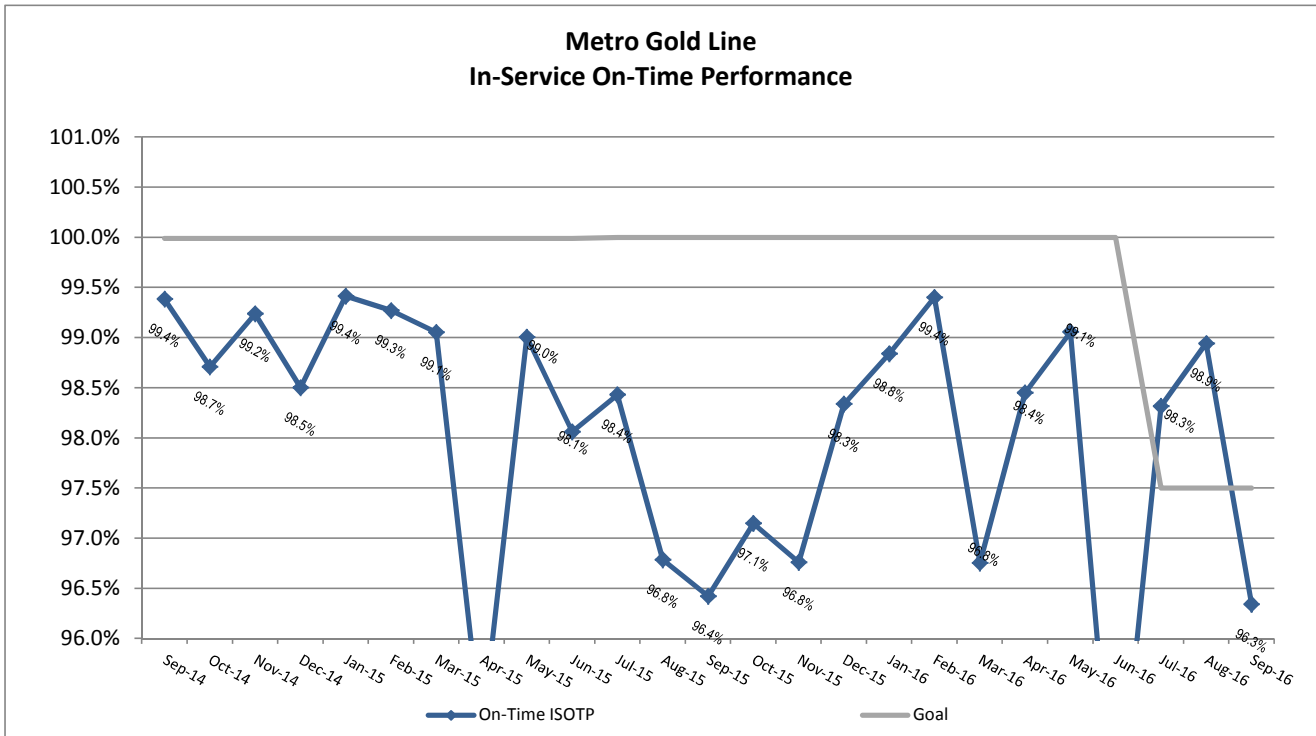
## COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



### ON-TIME PULL OUTS CHART

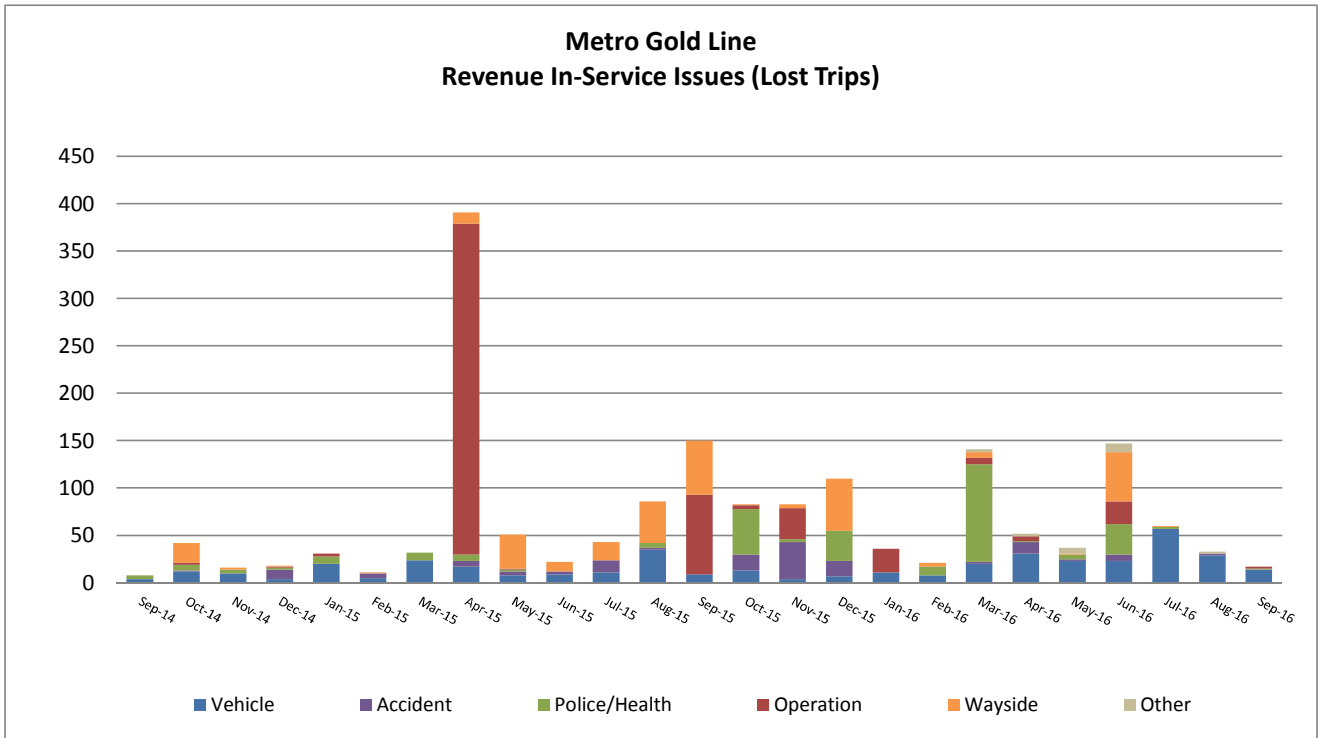


### IN-SERVICE ON-TIME PERFORMANCE CHART

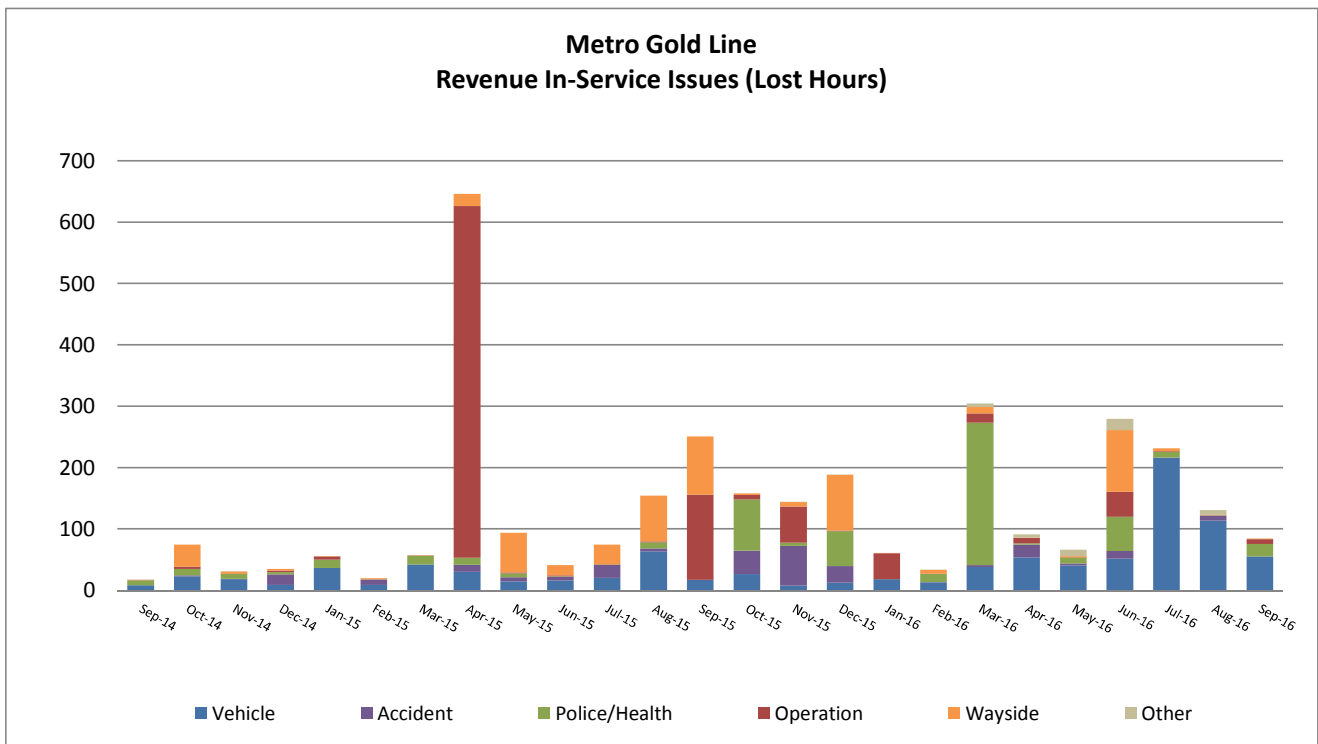




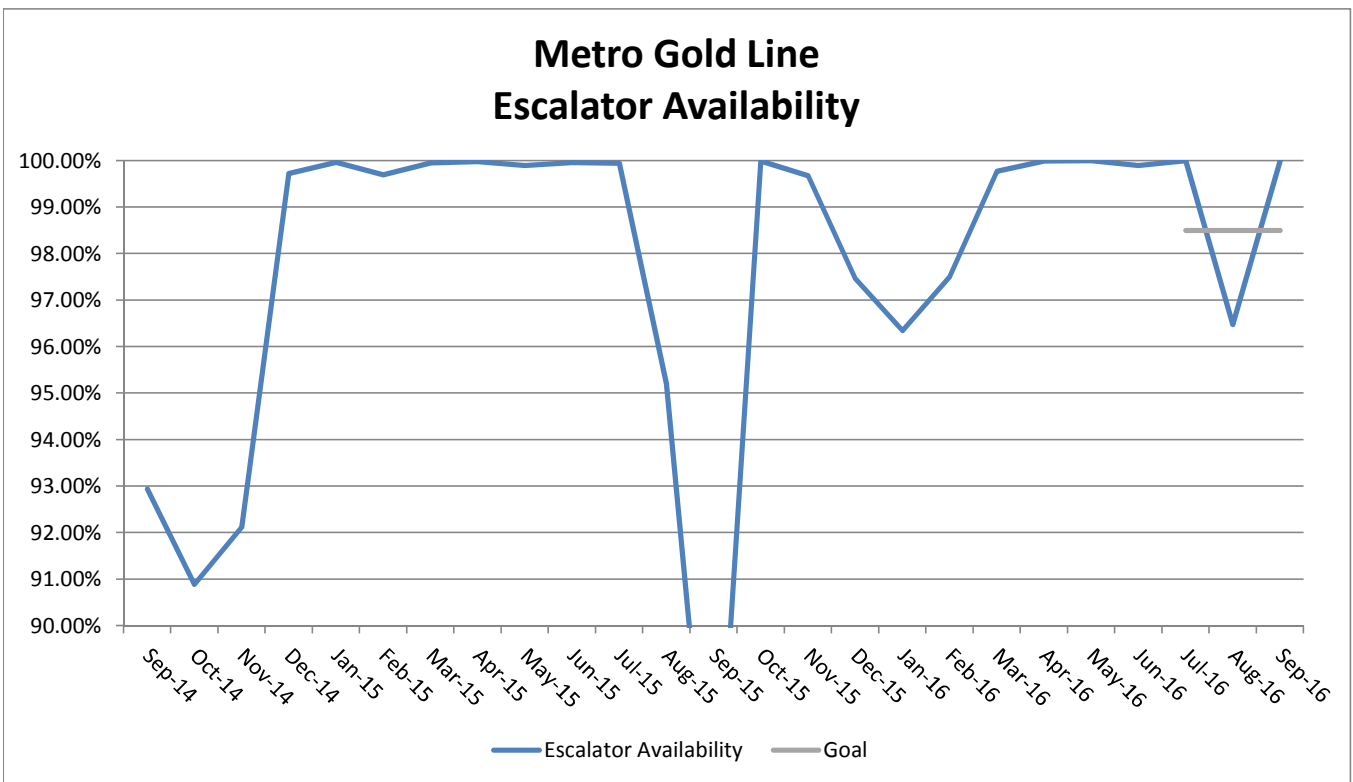
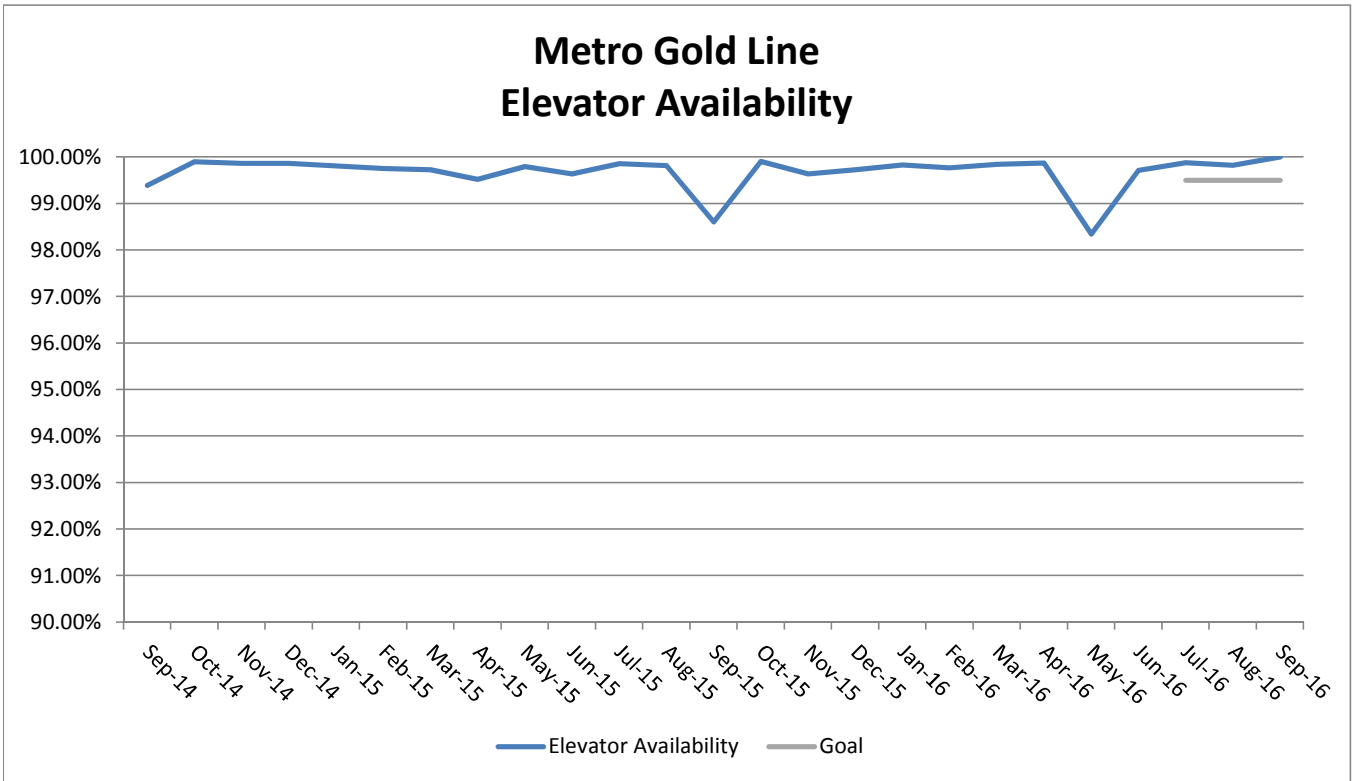
## LOST TRIPS



## LOST HOURS



## VERTICAL TRANSPORTATION AVAILABILITY



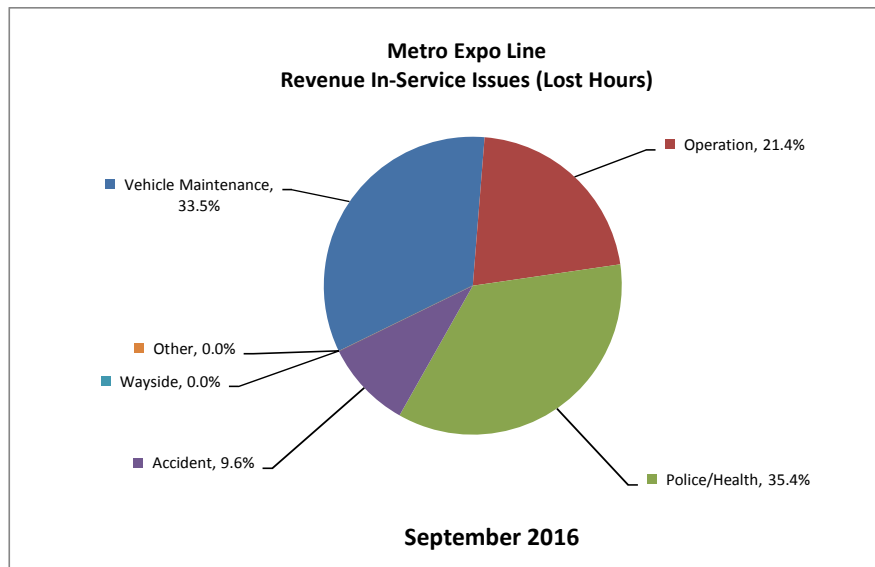
## EXPO LINE

Out of a total of 14,960 hours operated, there were approximately 75 total hours of service delays.

September 2016 Service Hours *	Revenue	
	Hours	Per Cent
Revenue Hours without Delays	14,886	99.5%
Hours Delayed	75	0.5%
<b>Total Revenue Hours</b>	<b>14,960</b>	<b>100.0%</b>

Summary of the major contributors:	Count	Hours	Per Cent
Operations	7	16.1	21.4%
Accidents	2	7.2	9.6%
Vehicle Maintenance	21	25.1	33.5%
Wayside	0	0.0	0.0%
Police & Health	6	26.6	35.4%
Other	0	0.0	0.0%
<b>Total</b>	<b>36</b>	<b>74.9</b>	<b>100.0%</b>

\* Data from M3 used to report Service Delays is under review for accuracy



## **September 2016 Expo Line major delay contributors were as follows:**

### **Operations Incidents:**

**9/2/2016 2:54:00 PM - Incident# 2772620 (1 lost trip, 132 lost minutes)**

Train 602 trip from Santa Monica to Bundy station was cancelled

**9/10/2016 4:33:00 AM - Incident# 2775075 (1 lost trip, 132 lost minutes)**

26th St Interlocking signal-6S, Train-102 T-89 consist #248-236 "out-late". Scheduled pull-out at 4:33 hours and actual pull-out at 5:23 hours with (50) minutes delayed.

**9/10/2016 8:15:00 AM - Incident# 2775127 (3 lost trips, 397 lost minutes)**

Expo Yard (Division-14), last three scheduled pull-out's canceled due to "no equipment" available. Train-105 at 8:15 hours, Train-101 at 8:27 hours and Train-619 at 8:39 hours.

**9/14/2016 11:30:00 AM - Incident# 2776695 (0 lost trips, 8 lost minutes)**

Train 605 Operator T-459 departed from Santa Monica Station eight minutes late for no reason.

**9/14/2016 6:41:00 PM - Incident# 2776887 (0 lost trips, 12 lost minutes)**

Refer to M3 #2,776,889

Train Delay due to deenergized track

South of San Pedro Station, Track #002.

**9/18/2016 10:27:00 AM - Incident# 2778105 (2 lost trips, 271 lost minutes)**

Trains 918 & 919 did not roll out from the Expo Yard at the prescribed scheduled times

**9/21/2016 7:12:00 AM - Incident# 2779365 (0 lost trips, 12 lost minutes)**

Train # 607 T-230 departed 12 minutes due to late arrival into 7th & Metro. Blue Line delays cause trains to be held outside of 7th & Metro.

### **Accidents:**

**9/13/2016 9:47:00 AM - Incident# 2776202 (1 lost trip, 146 lost minutes)**

Train # 605 T-226, S/Bound Track #3, 17th Street Pedestrian Grade Crossing reports 1072.

**9/26/2016 1:41:00 AM - Incident# 2780920 (2 lost trips, 286 lost minutes)**

Train vs Motorcycle with a fatality

Train 604

T-497

Cars (158)B-157

Flower Washington tk 4

## **Vehicle Maintenance Incidents:**

**9/1/2016 5:21:00 PM - Incident# 2772261 (0 lost trips, 8 lost minutes)**

Door problems car 1028B-1025-1027

Train 601

T-375

Track 3

Bundy station

Northbound

**9/4/2016 4:33:00 AM - Incident# 2772940 (2 lost trips, 266 lost minutes)**

B/O dynamic brake on 163.

Train 606

T-241

116-(163)-122

SB, Westwood Station, Track 3

**9/5/2016 5:38:00 AM - Incident# 2773124 (0 lost trips, 12 lost minutes)**

Horn/Gong not working LRV 119A

T-054

Train 602

LRV (119A) 108 138

26th Street Station, Track 3, northbound.

**9/5/2016 6:28:00 AM - Incident# 2773128 (0 lost trips, 13 lost minutes)**

Train keyed in Local on Trailing Cab of 131

T-054

Train 602

LRV 118-138-131

Crenshaw Station, Track 3, northbound.

**9/7/2016 4:53:00 AM - Incident# 2773855 (0 lost trips, 480 lost minutes)**

Train-603

T-230

Cars (1023)-1017-1036

USC/EXPO, Track #4

Southbound

HSCB Trip/ Friction Brakes

**9/10/2016 5:29:00 PM - Incident# 2775236 (1 lost trip, 152 lost minutes)**

Propulsion / Dynamic Brakes, Cars #(119A)-142-141

Train #601

T-354

Bill Robertson Way, Track #003, Northbound.

**9/12/2016 11:51:00 PM - Incident# 2776014 (0 lost trips, 7 lost minutes)**

Operator reports a door problem on Car 236A.

Cars 236A, 248

Train 605

T-375

Vermont TRK 4, southbound

**9/14/2016 2:31:00 PM - Incident# 2776762 (0 lost trips, 4 lost minutes)**

Doors, Cars #246-(248A 5/6-236

Train #605

T-449

Western Station, Track #004, Southbound.

**9/14/2016 5:40:00 PM - Incident# 2776876 (0 lost trips, 13 lost minutes)**

Propulsion / Dynamic Brakes, Cars #(145)-148-122

Train #601

T-392

23rd street Station, Track #004, Southbound.

**9/15/2016 4:26:00 PM - Incident# 2777276 (0 lost trips, 12 lost minutes)**

Operator reports of self applying brakes

Train 607

T-219

(149A)142-133

Sepulveda station, Trk. 4, southbound

**9/17/2016 12:58:00 AM - Incident# 2777827 (0 lost trips, 20 lost minutes)**

NO Fault no movement and Self applying brakes on the Trailing.

Train 604

T-455

(1019)-1014-(1018)

Washington and Flower (Junction)

20 minute delay

**9/17/2016 2:45:00 AM - Incident# 2777836 (0 lost trips, 20 lost minutes)**

No Fault No Movement/ Friction Break Fault

Train 604

T-455

(1019A FF)-1014-(1018)

Flower/Washington (Junction)

+20 min.

**9/17/2016 5:34:00 PM - Incident# 2777979 (0 lost trips, 20 lost minutes)**

No movement

Train #604

T-325

1024-1026-1023

7th and Metro Center Station, Track #1, NB

**9/18/2016 3:07:00 PM - Incident# 2778152 (0 lost trips, 15 lost minutes)**

Operator reports of no movement after cutting out doors on rail car 247

Train 608

T-241

(247)234-302

Crenshaw station, Trk. 4, southbound

**9/19/2016 10:11:00 AM - Incident# 2778419 (0 lost trips, 11 lost minutes)**

Propulsion / Dynamic Brakes

T-241

Train 603

LRV 1026-1018-1038-1038

7MC Station, Track 1, southbound.

**9/21/2016 2:38:00 PM - Incident# 2779564 (1 lost trip, 133 lost minutes)**

Propulsion fault unable to clear 1026-1018-1038

Train 601

T-407

Track 3

Northbound

Sepulveda station

**9/27/2016 6:37:00 AM - Incident# 2781563 (0 lost trips, 12 lost minutes)**

Hi-Circuit Breaker Trip. No Movement.

Train #606.

T-306.

LRV-(1038A),1018,1023.

Culver City Station, Track #3, Northbound.

**9/28/2016 2:14:00 PM - Incident# 2782426 (1 lost trip, 133 lost minutes)**

No fault no movement cars 1021-1027-1022

Train 606

T-392

Track 3

Northbound

**9/29/2016 1:33:00 PM - Incident# 2782813 (1 lost trip, 143 lost minutes)**

Operator reports of no movement

Train 603

T-502

(1025)1029-1033

Vermont station, Trk. 3, northbound

**9/29/2016 10:20:00 PM - Incident# 2782937 (0 lost trips, 20 lost minutes)**

Door Problem/ No movement

Train #604, T-401

(229B)-249

SB, Culver City Station, Track #4

**9/30/2016 6:09:00 AM - Incident# 2783051 (0 lost trips, 12 lost minutes)**

Car 144A Doors 5/6 unable to close

Train 605

T-442

17th St. Station track 3 Northbound

Consist 110-144-100

**Police & Health Incidents:**

**9/6/2016 12:45:00 PM - Incident# 2773610 (1 lost trip, 133 lost minutes)**

Sick individual at Culver City track 4.requesting medical attention.

**9/8/2016 11:52:00 AM - Incident# 2774490 (10 lost trips, 1,410 lost minutes)**

996-TOM at Vermont Station

**9/14/2016 3:46:00 PM - Incident# 2776816 (0 lost trips, 13 lost minutes)**

Other Felony/Misdemeanor (teenagers fighting) Cars #1029-1038-1028

Train #601

T-354

Vermont Station, Track #004, Southbound.



**9/15/2016 5:05:00 PM - Incident# 2777279 (0 lost trips, 6 lost minutes)**

Operator reports of a trespasser blocking train movement at 27th and Adams.

Train 99

T-509

1030-1016-1031

27th/Adams, Trk. 4, southbound

**9/19/2016 2:13:00 PM - Incident# 2778526 (0 lost trips, 12 lost minutes)**

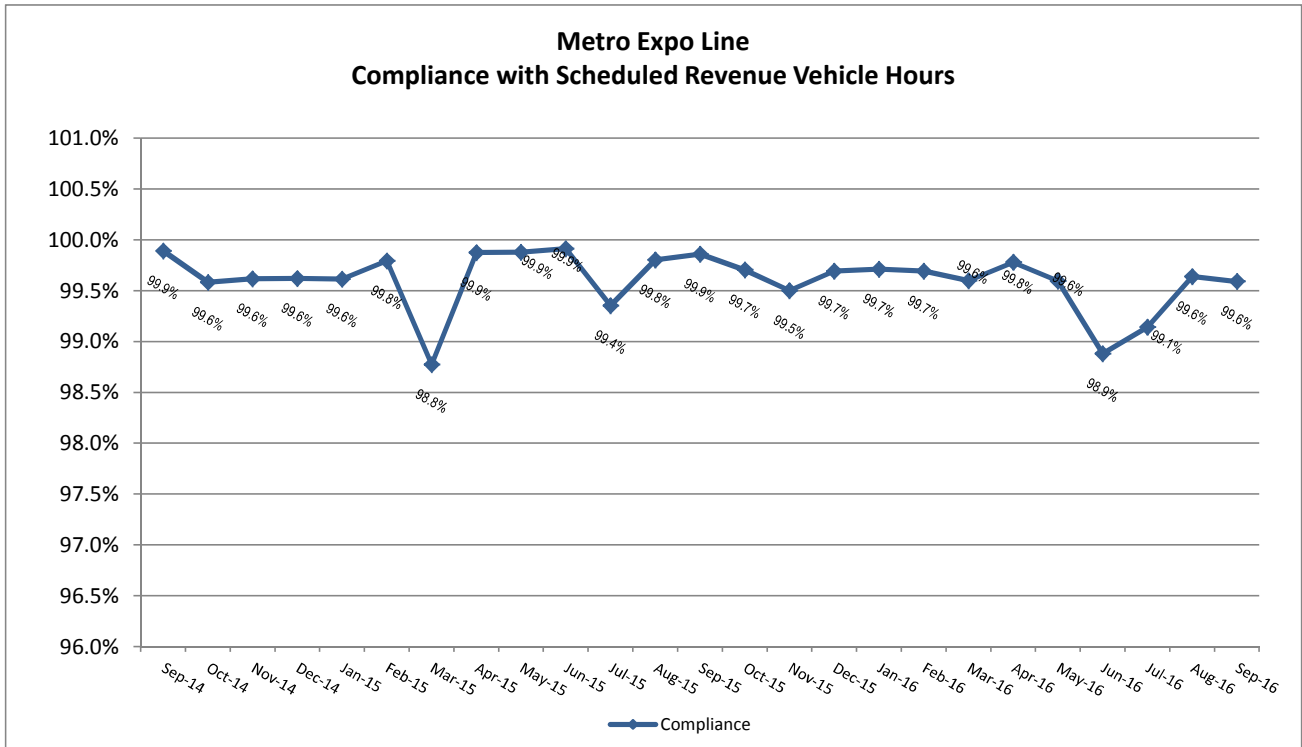
Intoxicated passenger requesting medical attention.

**9/30/2016 12:50:00 AM - Incident# 2782974 (0 lost trips, 20 lost minutes)**

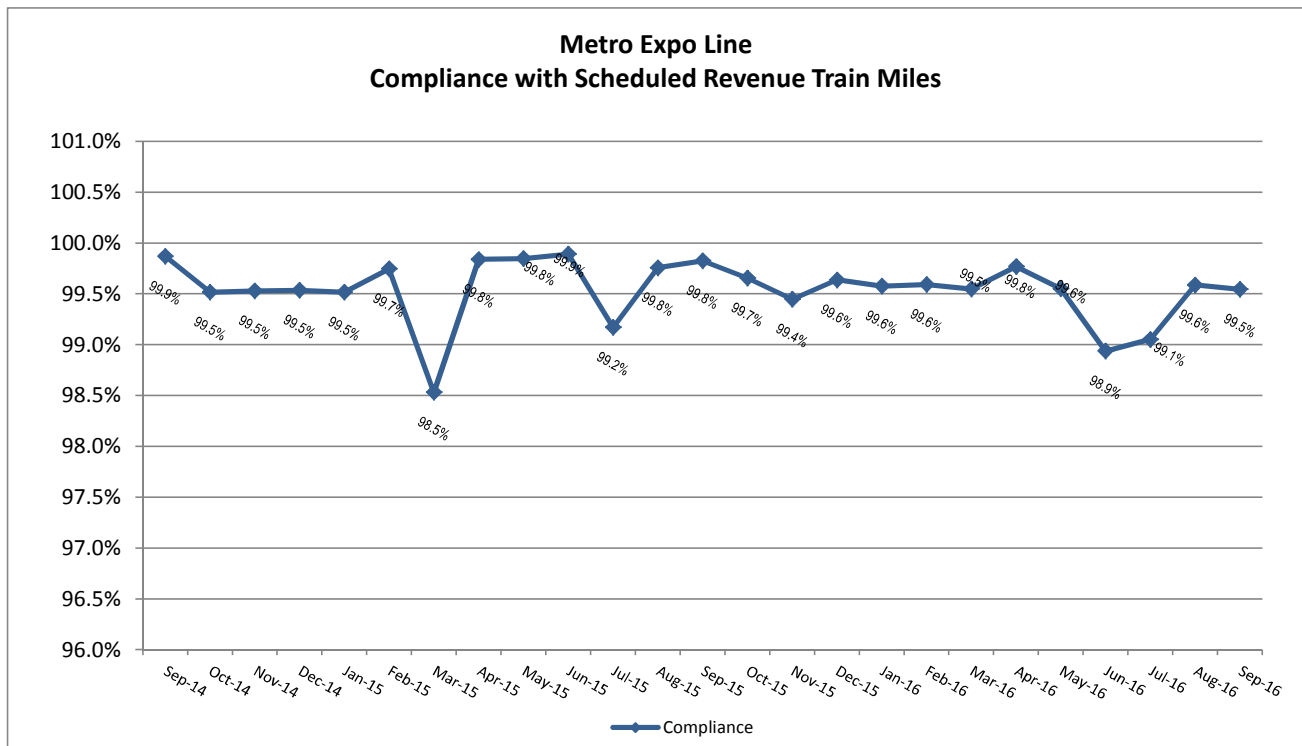
Traffic accident at Crenshaw Blvd. MTA not involved

# MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

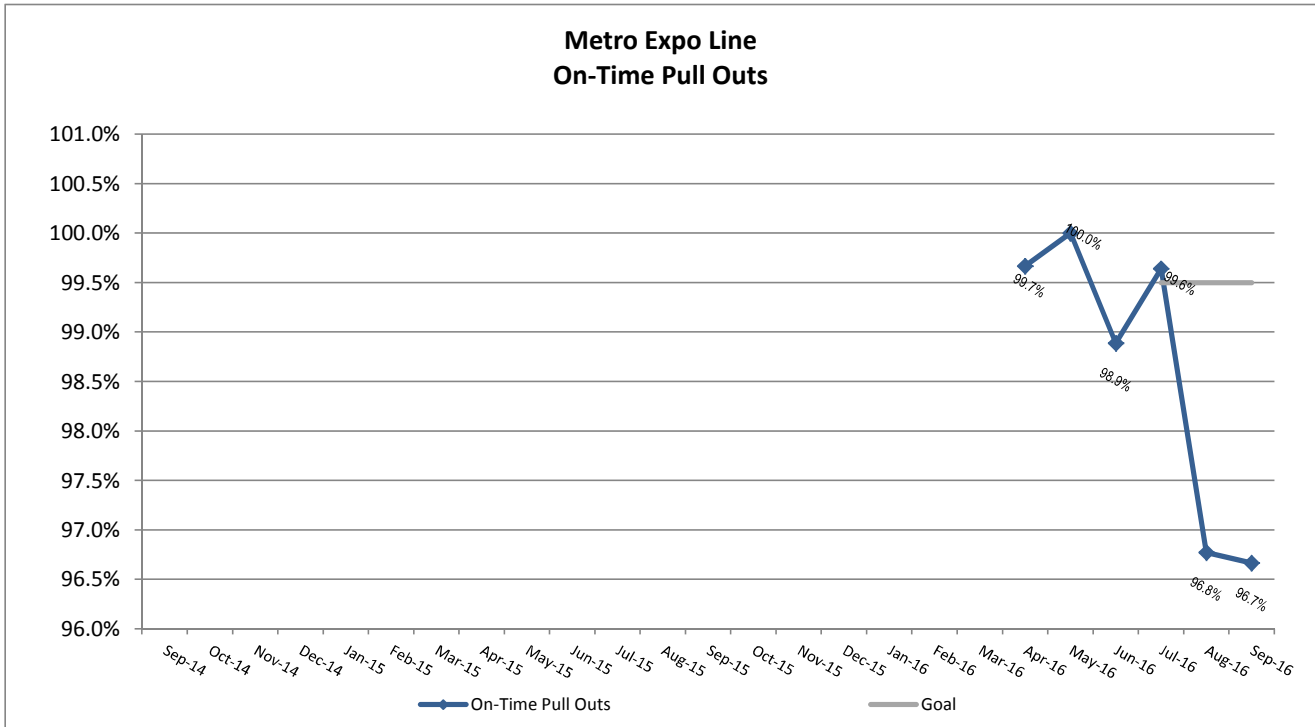
## COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART



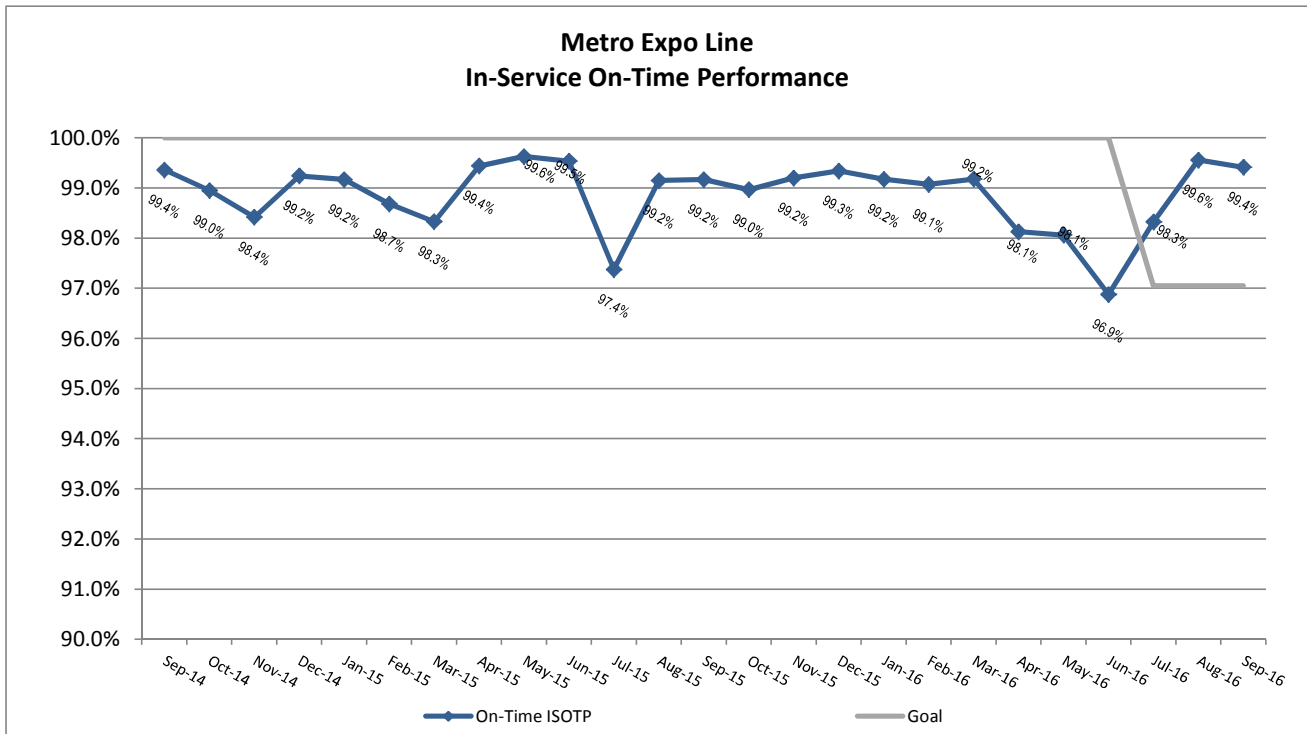
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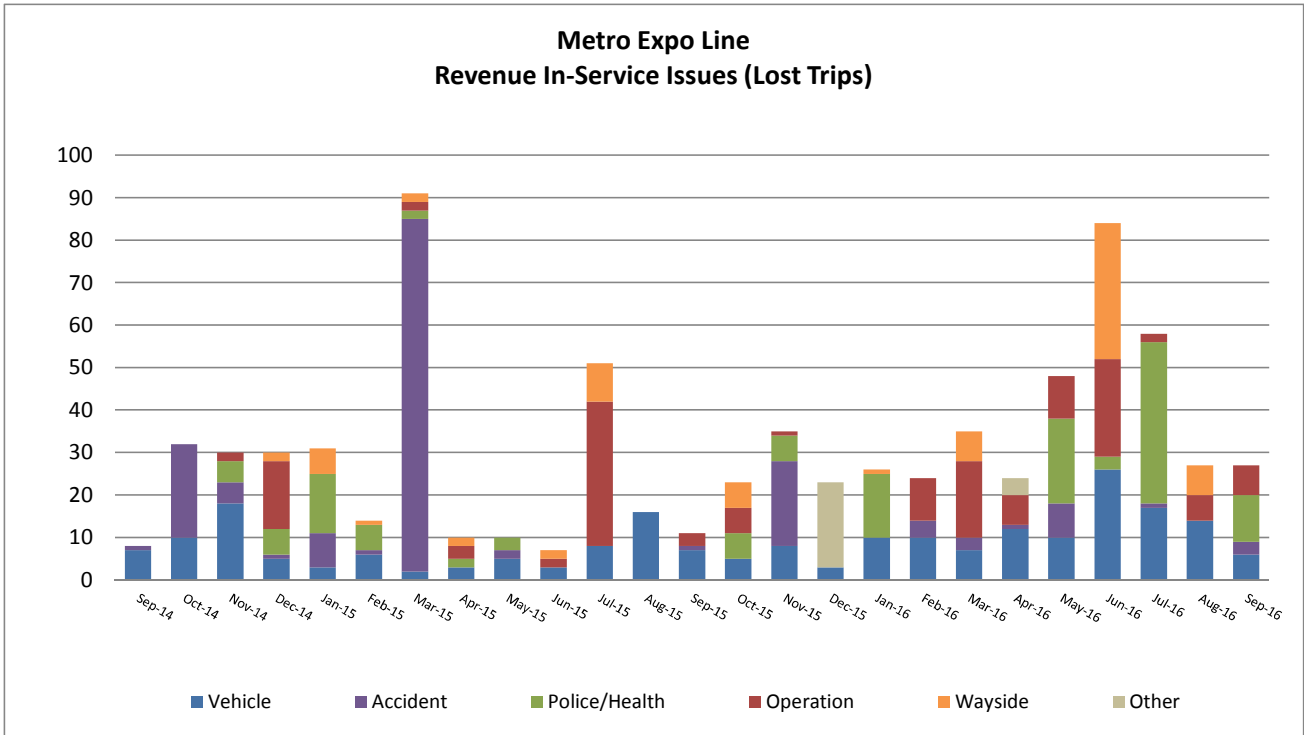
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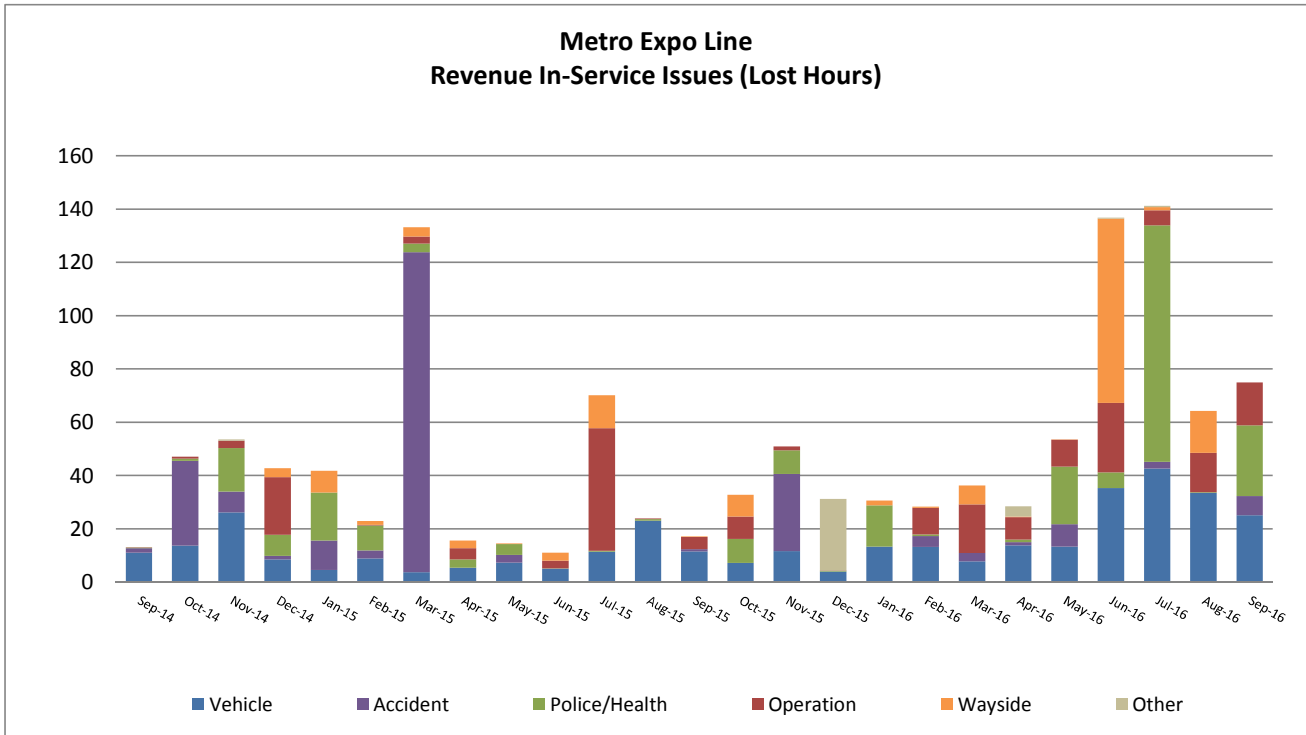
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## LOST TRIPS



## LOST HOURS



## VERTICAL TRANSPORTATION AVAILABILITY

