.os Angeles County Metropolitan Transportation Authorit; California

OPERATIONS MONTHLY RAIL PERFORMANCE REPORT

DECEMBER 2016



METRO RAIL PERFORMANCE – DECEMBER 2016

Contents	Page
Systemwide Performance	
Rail Scorecard	3
Rail Mean Miles Between Major Failure by Vehicle Type	5
Fleet Distribution Report	10
Vehicle Availability by Division	11
Cleanliness	12
Lost Revenue Vehicle Hours by Category, by Division	13
Rail Service Performance	16
Workers Comp Claims	21
Lost Work Days	22
Vertical Transportation - Systemwide	23
Blue Line Performance	
Performance Summary	24
Major Incident Detail	25
Performance Charts	32
Red / Purple Line Performance	
Performance Summary	36
Major Incident Detail	37
Performance Charts	39
Green Line Performance	
Performance Summary	43
Major Incident Detail	44
Performance Charts	49
Gold Line Performance	
Performance Summary	53
Major Incident Detail	54
Performance Charts	59
Expo Line Performance	
Performance Summary	63
Major Incident Detail	64
Performance Charts	66

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.

			-	FY 2017	FY 2017	FYTD	Oct	Nov	Dec
Measurement	FY 2014	FY 2015	FY 2016	Target	YTD	Status	Month	Month	Month
Systemwide									
On-Time Pullouts	99.55%	99.67%	99.63%	99.50%	99.65%		99.96%	99.33%	99.97%
Mean Miles Between Chargeable Mechanical Failures	28,829	34,524	30,482	27,911	28,138		34,320	34,270	24,134
In-Service On-time Performance	97.92%	98.39%	98.10%	98.00%	98.24%		98.67%	96.96%	97.74%
Service Delivery Ratio	99.12%	99.35%	99.22%	99.25%	99.21%		99.21%	99.10%	98.80%
Traffic Accidents Per 100,000 Train Miles	1.47	1.18	1.17	N/A	1.01	N/A	1.63	0.13	1.18
CPUC Reportable Accidents per 100,000 Train Miles	0.10	0.43	0.60	0.67	0.32		0.54	0.00	0.26
Passenger Accidents per 100,000 Boardings	0.025	0.013	0.016	0.009	0.023		0.053	0.032	0.000
Complaints per 100,000 Boardings	0.91	0.78	1.43	1.12	1.93		1.86	2.10	1.39
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours ^{1, 2}	15.35	11.11	10.97	10.42	12.19	0	14.24	15.68	10.88
Lost Work Days per 200,000 Exposure Hours ^{1, 2}	861	880	482	458.16	721		542	32	-
OSHA Injuries per 200,000 Exposure Hours ^{1, 2}	8.18	6.68	6.32	6.00	9.14	Ŏ	13.29	10.78	-
	0.110	0.00	0.02	0.00	0	•	.0.20		
Wayside									
Overdue Work Orders (Non-PMP) - Aging of Outstanding Work Orders	71	193	1,001	N/A	2,497	N/A	376	37	739
Past-Due Preventive Maintenance - Aging of Outstanding Work Orders	0	2	143	N/A	887	N/A	118	39	220
% of Completed Inspections	99.41%	99.51%	99.57%	N/A	99.27%	N/A	100.00%	98.77%	97.75%
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	9.28	9.07	4.77	4.53	4.70		7.89	4.12	4.24
Lost Work Days per 200,000 Exposure Hours ¹	179	309	148	141	124		51	43	-
OSHA Injuries per 200,000 Exposure Hours ¹	6.31	8.28	4.40	4.18	4.78		7.89	44.00	-
	•							49.00	
Blue Line									
On-Time Pullouts	99.37%	99.41%	99.59%	99.50%	99.66%		100.00%	99.85%	100.00%
Mean Miles Between Chargeable Mechanical	18,731	23,716	19,240	19,572	16,954	\bigcirc	20,992	53	17,131
In-Service On-time Performance	95.84%	97.28%	96.10%	97.00%	96.86%		98.47%	5400.00%	96.47%
Service Delivery Ratio	98.36%	98.88%	98.41%	98.46%	98.79%		99.15%	5900.00%	98.56%
Traffic Accidents Per 100,000 Train Miles	2.97	2.48	2.38	N/A	2.28	N/A	2.62	0.00	4.50
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.89	1.39	1.34	0.76		0.66	0.00	1.29
Passenger Accidents per 100,000 Boardings	0.058	0.034	0.016	0.006	0.032		0.048	63.000	0.000
Complaints per 100,000 Boardings	1.10	0.90	1.33	1.09	1.64		1.50	64.00	1.29
New Workers' Compensation Indemnity Claims per	17.46	15.10	15.08	15.58	19.13	0	15.51	66.00	27.59
Lost Work Days per 200,000 Exposure Hours ¹	990	1,622	797	786	907	0	845	785	-
OSHA Injuries per 200,000 Exposure Hours ¹	5.71	10.64	6.79	9.58	9.82		0.00	21.57	-

¹ There is a One Month lag in reporting this data

² 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%.

N/A = Not Available

				FY 2017	FY 2017	FYTD	Oct	Nov	Dec
Measurement	FY 2014	FY 2015	FY 2016	Target	YTD	Status	Month	Month	Month
Red Line									
On-Time Pullouts	99.72%	99.91%	99.79%	99.50%	100.00%		100.00%	100.00%	100.00%
Mean Miles Between Chargeable Mechanical	63,099	85,090	94,312	112,652	106,434		296,934	85,507	196,096
In-Service On-time Performance	98.91%	99.13%	99.45%	99.50%	99.56%		99.79%	99.58%	99.51%
Service Delivery Ratio	99.57%	99.60%	99.71%	99.71%	99.81%		99.94%	99.88%	99.79%
Traffic Accidents Per 100,000 Train Miles	1.01	0.47	0.75	N/A	0.57	N/A	0.84	0.86	0.00
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	0.004		0.000	0.026	0.000
Complaints per 100,000 Boardings	0.60	0.54	0.57	0.56	0.79		0.91	0.82	0.51
New Workers' Compensation Indemnity Claims per	20.22	6.20	16.43	13.29	14.07		21.04	15.82	16.12
*Lost Work Days per 200,000 Exposure Hours	927	649	526	556	1,201		867	1,420	-
*OSHA Injuries per 200,000 Exposure Hours	11.79	3.54	7.99	6.55	10.23		10.52	21.10	-

Green Line									
On-Time Pullouts	99.69%	99.32%	99.49%	99.50%	99.89%		99.78%	100.00%	100.00%
Mean Miles Between Chargeable Mechanical Failures	19,513	21,054	19,238	19,911	15,547	0	18,831	16,983	8,808
In-Service On-time Performance	97.85%	97.39%	98.52%	98.20%	98.43%		98.37%	98.99%	98.23%
Service Delivery Ratio	99.57%	99.50%	99.59%	99.62%	99.61%		99.73%	99.75%	99.54%
Traffic Accidents Per 100,000 Train Miles	0.49	0.21	0.42	N/A	0.69	N/A	1.66	0.00	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	0.074		0.000	0.117	0.000
Complaints per 100,000 Boardings	1.15	0.88	1.53	1.30	2.10		2.58	1.88	1.50
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	16.51	7.32	7.18	9.27	5.14		0.00	0.00	0.00
*Lost Work Days per 200,000 Exposure Hours	1,299	479	228	195	977		828	751	-
*OSHA Injuries per 200,000 Exposure Hours	11.30	4.07	3.19	2.34	4.12		0.00	0.00	-

Gold Line									
On-Time Pullouts	99.56%	99.98%	99.68%	99.50%	99.79%		100.00%	98.96%	100.00%
Mean Miles Between Chargeable Mechanical Failures	45,894	44,171	40,426	51,665	33,255		30,271	65,357	38,175
In-Service On-time Performance	98.03%	98.56%	97.60%	97.50%	97.31%	\bigcirc	97.45%	97.47%	95.29%
Service Delivery Ratio	99.03%	99.34%	99.11%	99.16%	98.64%	\bigcirc	98.35%	99.11%	96.69%
Traffic Accidents Per 100,000 Train Miles	1.03	1.14	0.99	N/A	0.50	N/A	1.29	0.00	0.43
CPUC Reportable Accidents per 100,000 Train Miles	0.00	0.30	0.60	0.50	0.14		0.43	0.00	0.00
Passenger Accidents per 100,000 Boardings	0.052	0.007	0.039	0.035	0.024	\bigcirc	0.140	0.000	0.000
Complaints per 100,000 Boardings	1.04	1.01	2.73	2.26	2.76		2.73	2.15	2.40
New Workers' Compensation Indemnity Claims per 200,000 Exposure Hours	14.98	15.96	11.87	12.20	13.75	\bigcirc	15.86	16.67	0.00
*Lost Work Days per 200,000 Exposure Hours	1,460	1,068	766	808	1,066		592	731	-
*OSHA Injuries per 200,000 Exposure Hours	9.12	3.83	9.29	10.07	9.86	\bigcirc	10.57	11.11	-

Expo Line									
On-Time Pullouts	-	-	99.53%	99.50%	98.57%		100.00%	97.96%	99.80%
Mean Miles Between Chargeable Mechanical Failures	-	-	18,114	19,572	23,601		31,499	28,964	17,586
In-Service On-time Performance	98.70%	99.14%	98.61%	97.05%	98.36%		98.63%	92.51%	98.37%
Service Delivery Ratio	99.45%	99.64%	99.56%	99.65%	99.20%	\bigcirc	98.84%	98.71%	99.51%
Traffic Accidents Per 100,000 Train Miles	1.17	1.02	0.74	N/A	1.18	N/A	1.79	0.00	0.76
CPUC Reportable Accidents per 100,000 Train Miles	1.17	1.02	0.50	0.37	0.74		1.79	0.00	0.00
Passenger Accidents per 100,000 Boardings	0.000	0.000	0.019	0.000	0.026		0.165	0.000	0.000
Complaints per 100,000 Boardings	1.53	1.13	3.38	1.87	4.81		3.97	5.60	2.81
New Workers' Compensation Indemnity Claims per	-	24.97	8.44	0.00	19.38		24.21	40.65	15.31
*Lost Work Days per 200,000 Exposure Hours	-	937	73	0	366		266	1,018	-
*OSHA Injuries per 200,000 Exposure Hours	-	-	5.63	0.00	20.28		64.55	-	-

* There is One Month lag in reporting this data

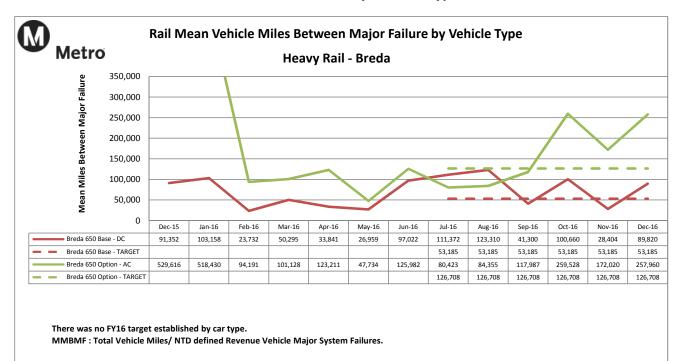
• Green - High probability of achieving the target (on track). Meets Target at 100% or better.

O 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%.

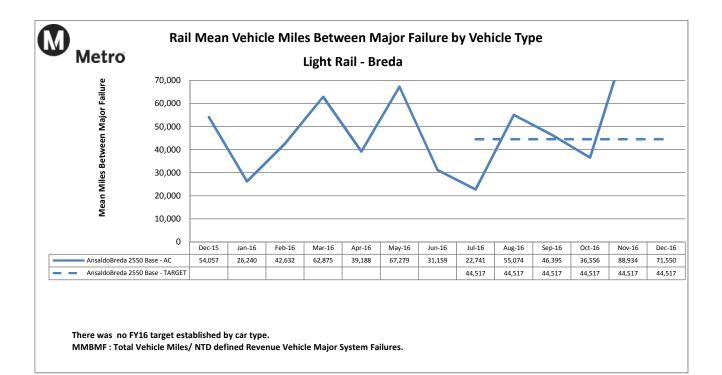
N/A = Not Available

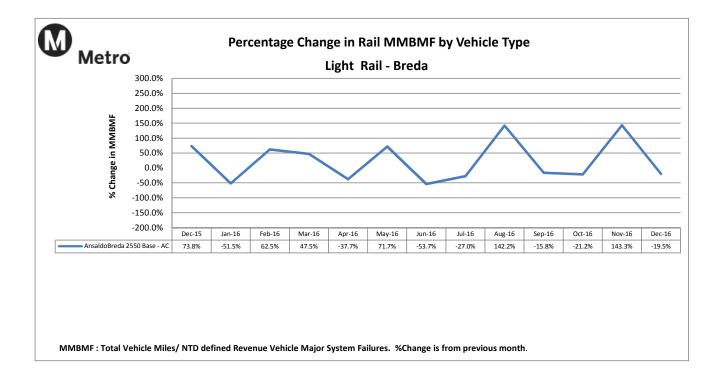
METRO RAIL PERFORMANCE – DECEMBER 2016

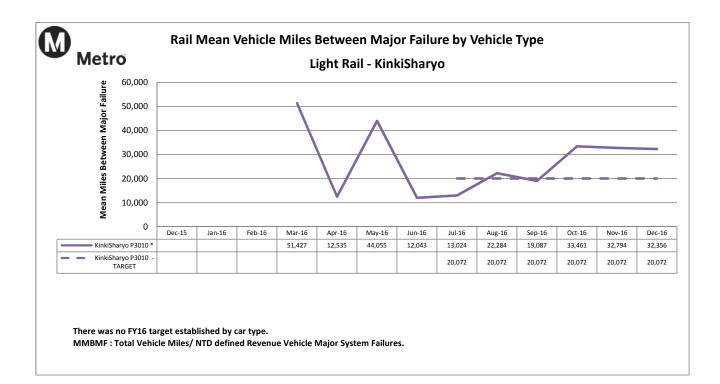


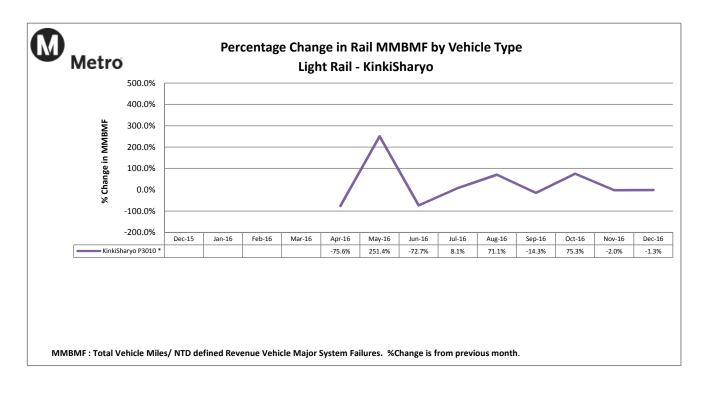
Rail Performance by Vehicle Type

Percentage Change in Rail MMBMF by Vehicle Type Metro Heavy Rail - Breda 500.0% 400.0% % Change in MMBMF 300.0% 200.0% 100.0% 0.0% -100.0% -200.0% Dec-15 Jan-16 Feb-16 Mar-16 May-16 Jun-16 Jul-16 Oct-16 Dec-16 Apr-16 Aug-16 Sep-16 Nov-16 Breda 650 Base - DC 1.4% 12.9% -77.0% 111.9% -32.7% -20.3% 259.9% 14.8% 10.7% -66.5% 143.7% -71.8% 216.2% Breda 650 Option - AC 437.8% -2.1% -81.8% 7.4% 21.8% -61.3% 163.9% -36.2% 4.9% 39.9% 120.0% -33.7% 50.0% MMBMF : Total Vehicle Miles/ NTD defined Revenue Vehicle Major System Failures. %Change is from previous month.

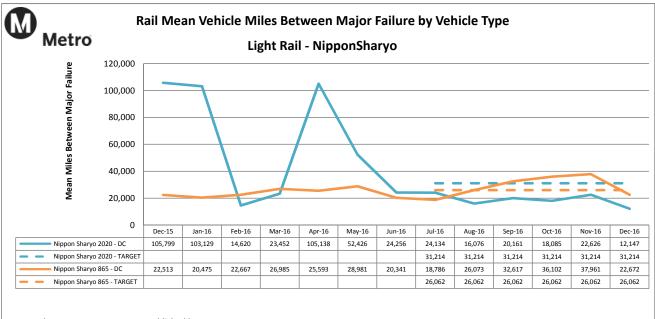






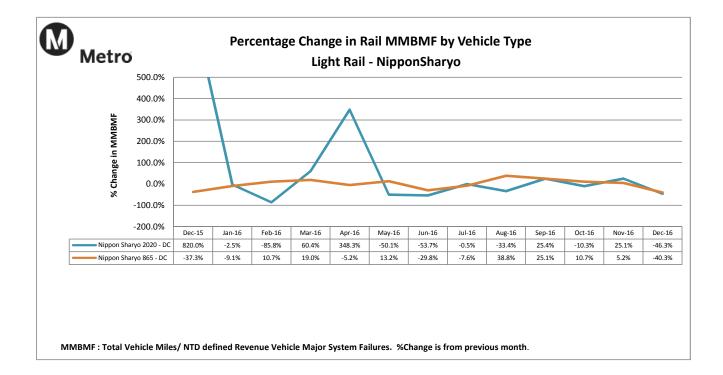


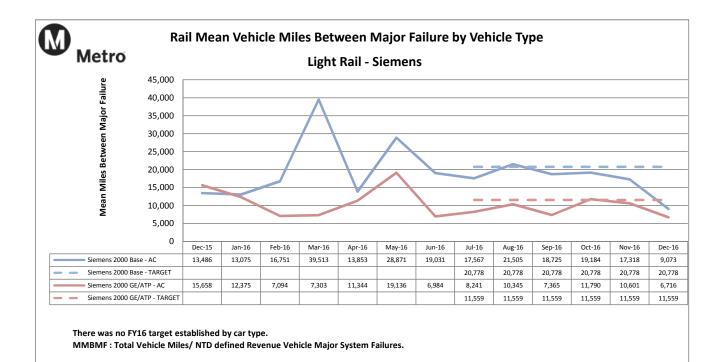
* KinkiSharyo rolling stock began service March 2016

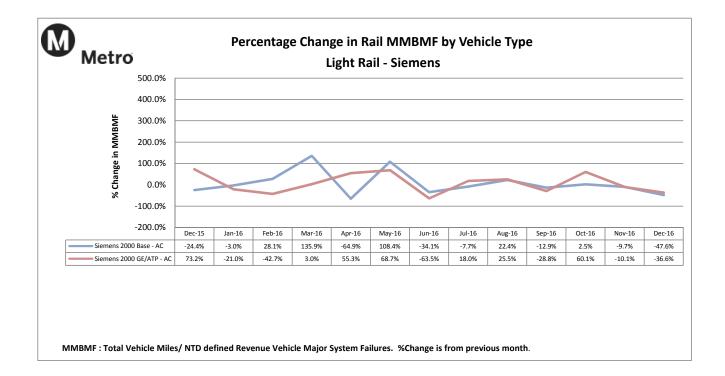


There was no FY16 target established by car type.

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





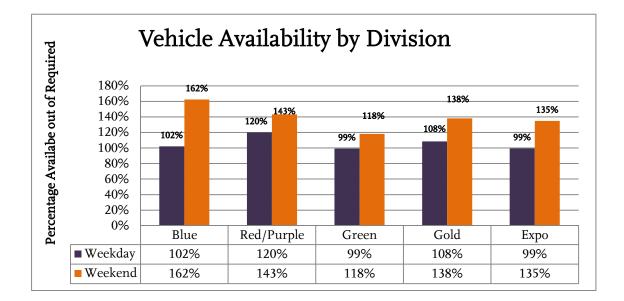


Number of Rail Vehicle Type by		Red /			
Division	Blue	Purple	Green	Gold	Ехро
AnsaldoBreda 2550 Base - AC				50	
Breda 650 Base - DC		30			
Breda 650 Option - AC		74			
KinkiSharyo P3010				12	36
Nippon Sharyo 2020 - DC	11				4
Nippon Sharyo 865 - DC	37				17
Siemens 2000 Base - AC			29		
Siemens 2000 GE/ATP - AC	17				6
TOTALS	65	104	29	62	63

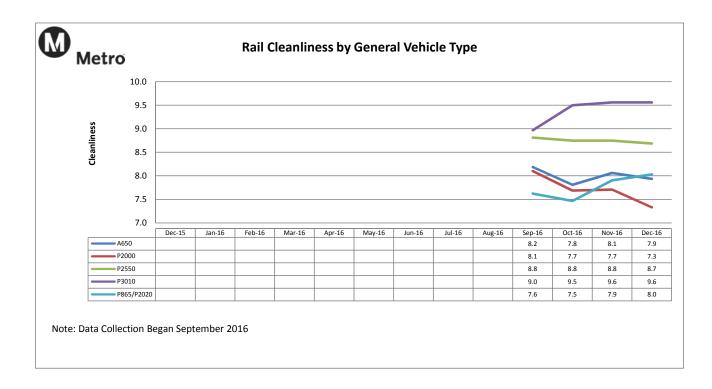
Rail Fleet Distribution – DECEMBER 2016

ח1			
Blue			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	57	58	102%
Weekend	26	42	162%
Red/ Purple			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	65	78	120%
Weekend	43	62	143%
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	47	51	108%
Weekend	28	39	138%
Expo			
Day Type	Vehicles Required	Average Available	Average % Available
Weekday	44	44	99%
Weekend	30	40	135%

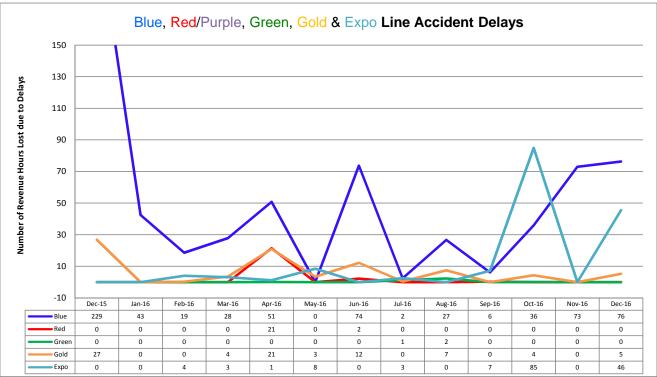
Vehicle Availability Systemwide



Cleanliness by Vehicle Type

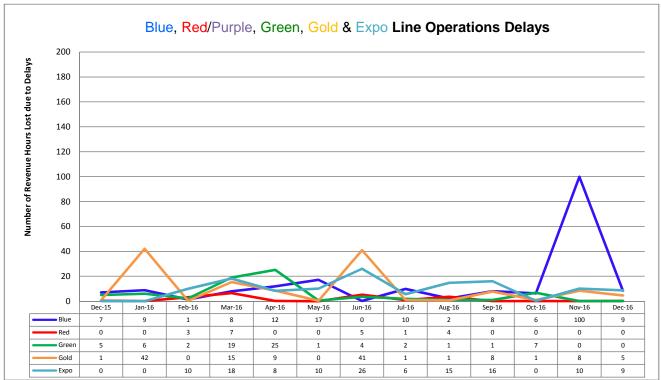


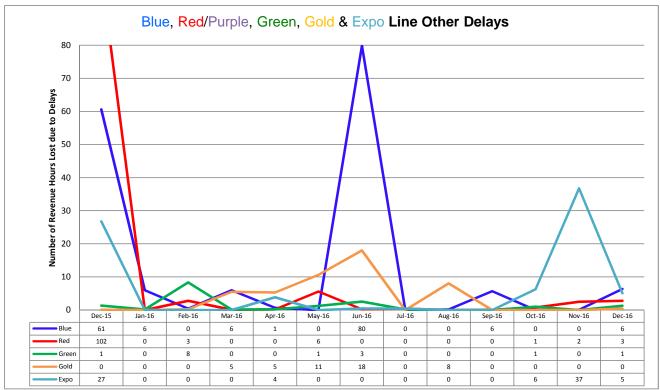
RAIL DELAYS BY CATEGORY - SYSTEMWIDE



Revenue Hours Lost Related to - ACCIDENTS

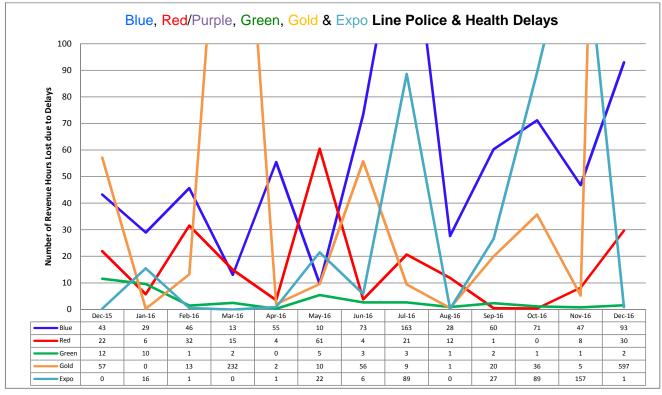
Revenue Hours Lost Related to - OPERATIONS



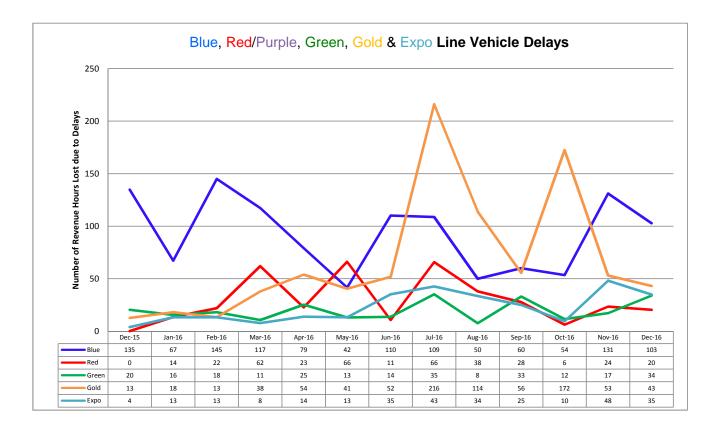


Revenue Hours Lost Related to - OTHER

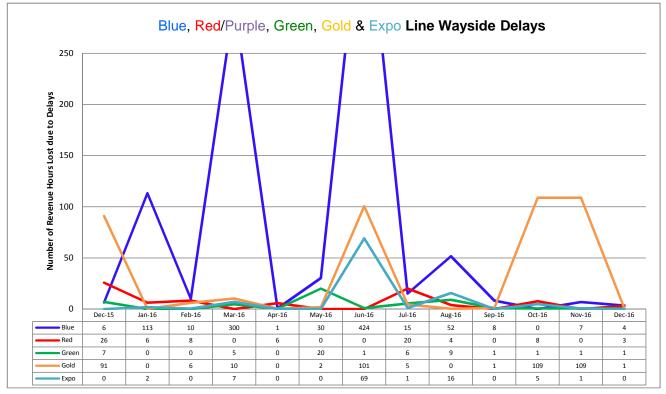
Revenue Hours Lost Related to - POLICE & HEALTH



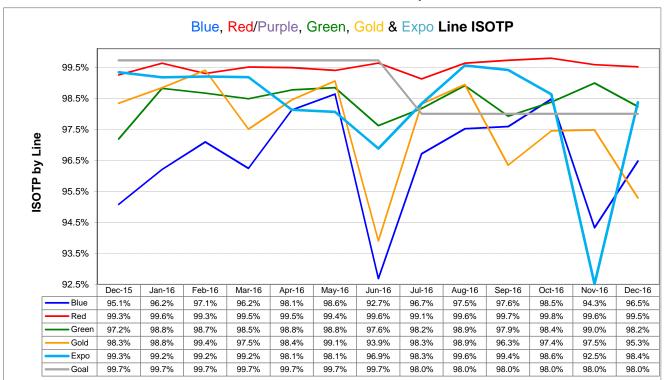
Revenue Hours Lost Related to - Vehicle Delays



Revenue Hours Lost Related to - WAYSIDE

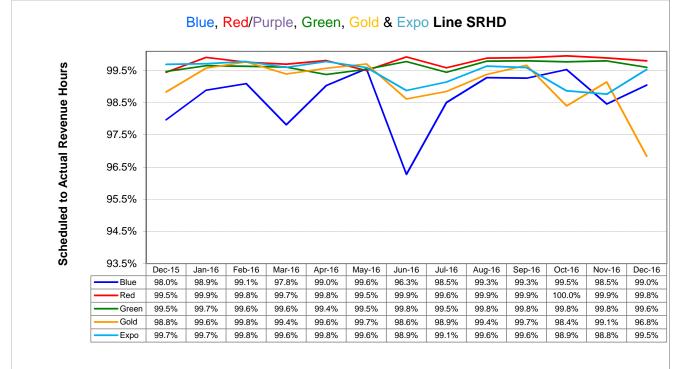


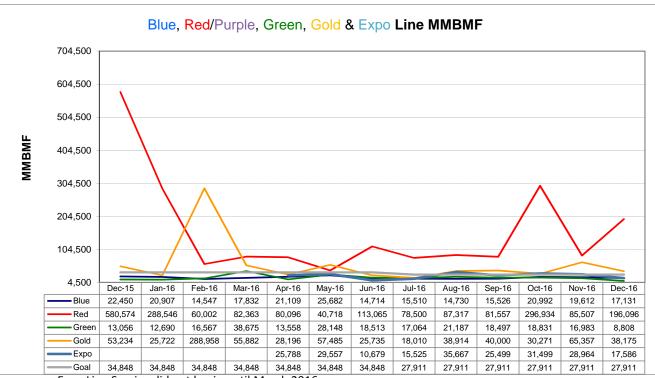
Rail Service Performance



In Service On Time Performance by Line



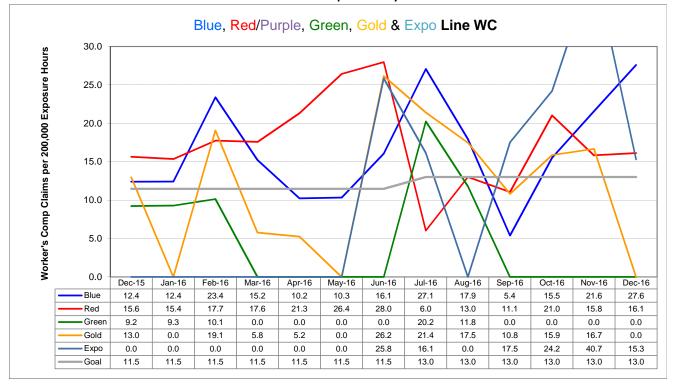


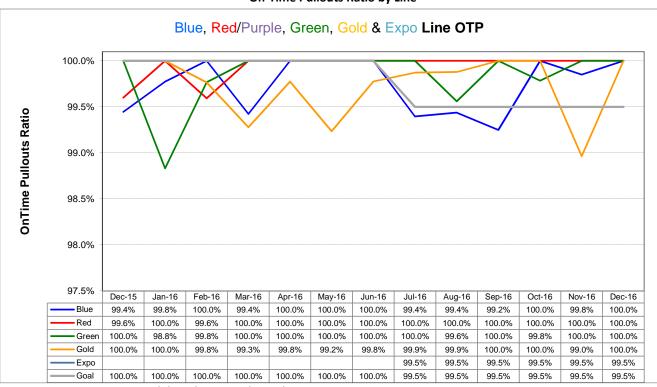


Mean Miles Between Mechanical Failures by Line

Expo Line Service did not begin until March 2016.

Workers Comp Claims by Line



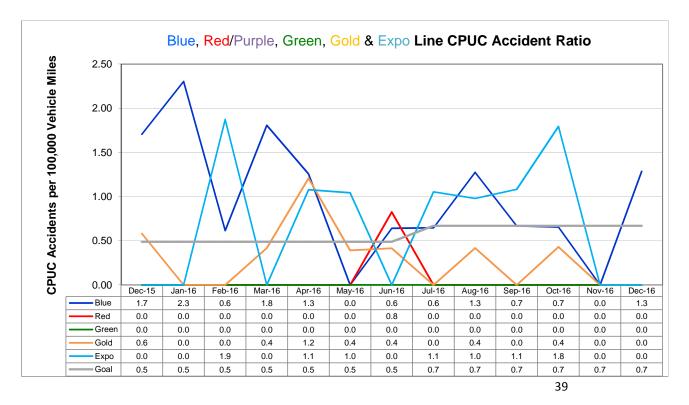


On-Time Pullouts Ratio by Line

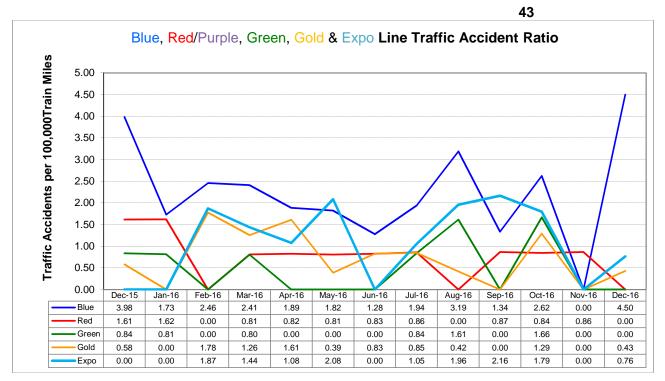
Expo Line Service did not begin until March 2016.

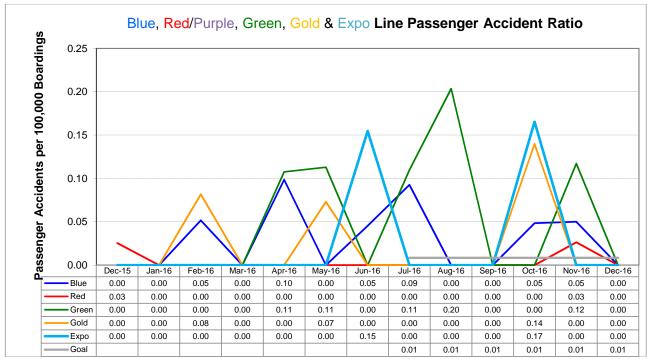
Rail Safety Performance

CPUC REPORTABLE ACCIDENTS PER 100,000 TRAIN MILES



TRAFFIC ACCIDENTS PER 100,000 TRAIN MILES

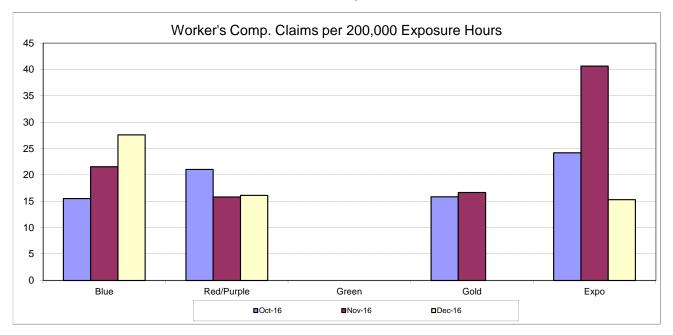




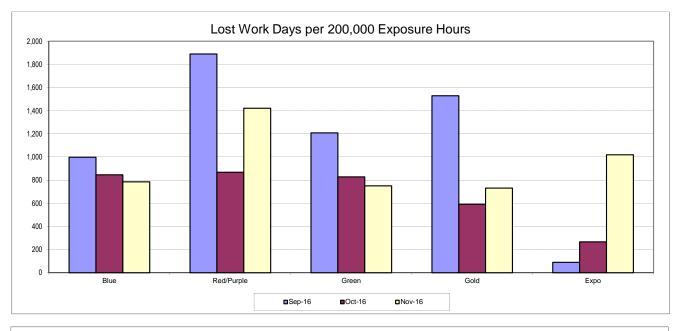
PASSENGER ACCIDENTS PER 100,000 BOARDINGS

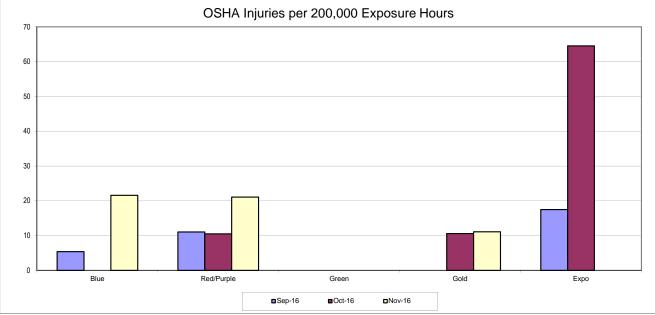
Expo Line Service did not begin until March 2016.

Worker's Comp. Claims Oct 2016 - Dec 2016 3 Month Comparison

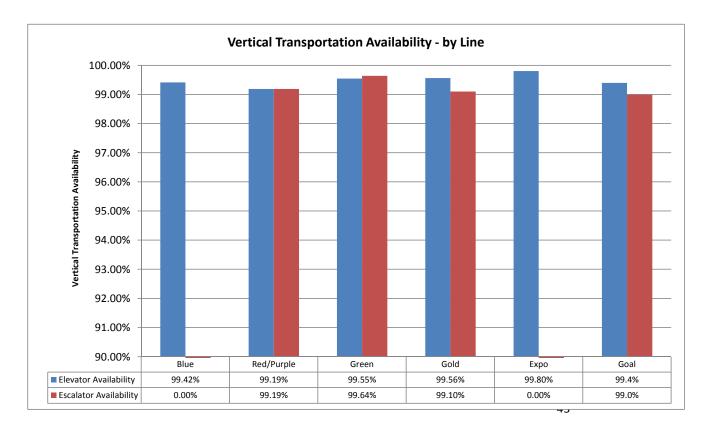


Lost Work Days and OSHA Injuries Sep 2016 - Nov 2016 3 Month Comparison





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



Systemwide Vertical Transportation Availability by Line

Note: No Escalators at Blue and Expo Lines

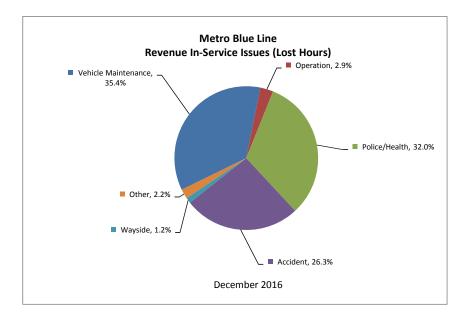
BLUE LINE

Out of a total of 20,124 hours operated, there were approximately 291 total hours of service delays.

	Revenue	
December 2016 Service Hours *	Hours	Per Cent
Revenue Hours without Delays	19,833	98.6%
Cancelled + Delayed Hours	291	1.4%
Total Revenue Hours	20,124	100.0%

Summary of the major contributors:	Count	Hours	Per Cent
Operations	2	8.5	2.9%
Accidents	4	76.4	26.3%
Vehicle Maintenance	42	102.8	35.4%
Wayside	2	3.5	1.2%
Police & Health	12	93.0	32.0%
Other	3	6.4	2.2%
Total	65	290.7	100.0%

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



December 2016 Blue Line major delay contributors were as follows:

Operations Incidents:

12/9/2016 4:24:00 AM - Incident# 2810373 (1 lost trip, 166 lost minutes) Train 105 Missed northbound trip from Willow to Washington due to scheduling error.

12/14/2016 6:37:00 PM - Incident# 2812471 (2 lost trips, 346 lost minutes)

Car 229 lost hi voltage power T-354 Train-604 Consist-230244(229A) Portal near 12th Street, South, Track #2

Accidents:

12/1/2016 1:26:00 PM - Incident# 2807038 (7 lost trips, 1,193 lost minutes) Train vs Auto 10-73 Train#108 T#308 Car# (160B),110,143

Track 2,Southbound,Transit Mall

12/2/2016 6:18:00 PM - Incident# 2807772 (2 lost trips, 347 lost minutes)

Train-101 T-237 Cars (244)-233-232 Southbound Track #2 55th Grade Crossing

Train vs Other (Bicycle) at 55th Grade Crossing.

12/19/2016 4:44:00 PM - Incident# 2814327 (11 lost trips, 1,844 lost minutes)

10-73 (Pedestrian on bike) Train 124 Track #2 SB Nadeu Crossing T-503 operating along with student operator 25937 (107B)-164-132

12/29/2016 5:14:00 PM - Incident# 2817538 (7 lost trips, 1,199 lost minutes)

10-72 Train vs Pedestrian (non-fatal) Train 126 Track #2 Southbound Alondra X-Ing T-291 (241A)-242-250

Vehicle Maintenance Incidents:

12/1/2016 5:50:00 AM - Incident# 2806745 (1 lost trip, 178 lost minutes) Propulsion Fault with a speed restriction of 35 mph. Train#106 T#076 Car#125,(101),136 Track 2, Southbound, Washington Station

12/1/2016 8:57:00 AM - Incident# 2806871 (0 lost trips, 15 lost minutes)

Friction Brake fault. Train#111 T#87 Car#(116B), 118 Track 2,southbound,Firestone Station

12/2/2016 5:14:00 AM - Incident# 2807270 (0 lost trips, 12 lost minutes)

Reports of propulsion fault with a speed restriction of 35mph Train # 111 T-152 237-235-(246) Wardlow Station, Track 1, Northbound

12/5/2016 7:53:00 AM - Incident# 2808502 (0 lost trips, 6 lost minutes)

Prop/Fault, Spin Slide. Train #111. T-355. LRV- (231), 239, 244. Firestone Station, track #1, Northbound.

12/5/2016 9:42:00 AM - Incident# 2808596 (0 lost trips, 10 lost minutes)

No Cab Signal departing 7/MC, track #2, Southbound. Train #103. T-102. LRV- (110B), 143. 7/MC, Track #2, Southbound.

12/7/2016 7:24:00 AM - Incident# 2809519 (0 lost trips, 12 lost minutes)

No movement door problem. Train #114 Train Operator T-200 Cars (115A), 153, 101 Willow Station, Track 1, Northbound

12/7/2016 10:02:00 AM - Incident# 2809824 (0 lost trips, 12 lost minutes)

Reports reports unable to engage street run Train # 104 T-211 (248B)-301-235 Transit Mall, Track #1, NB

12/7/2016 3:19:00 PM - Incident# 2809724 (1 lost trip, 168 lost minutes)

Operator reports a door problem with no movement. Cars 231, 247, 230 Train 121 Operator T-130 7th and Metro, TRK 2, southbound

12/8/2016 5:10:00 AM - Incident# 2809870 (1 lost trip, 184 lost minutes)

Propulsion / Dynamic Brakes (231)-233-302 Train 106 T-335 Washington, Northbound, Track 1

12/8/2016 7:35:00 PM - Incident# 2810265 (0 lost trips, 5 lost minutes)

Propulsion / Dynamic Brakes Train 106 T-495 (301A)-248-302 Southbound, Florence station Track 2.

12/9/2016 6:15:00 AM - Incident# 2810445 (1 lost trip, 172 lost minutes)

Multiple ATP faults Train 117 (113A)-118-119 Main Yard +6 delay

12/9/2016 4:43:00 PM - Incident# 2810668 (1 lost trip, 178 lost minutes)

Doors 6/7 malfunctioning on car 236A T-352, train 104 (236)-230-247 Florence, track 2, south

12/9/2016 5:12:00 PM - Incident# 2810679 (1 lost trip, 181 lost minutes)

No Fault - No Movement on train 109 T-357, train 109 114-106-111 Firestone, track 1, north

12/9/2016 6:10:00 PM - Incident# 2810692 (2 lost trips, 332 lost minutes)

T-300 Train-104 Cars (236)-301-247 Anaheim Station,Track #1 Northbound Doors unable to close.

12/10/2016 6:51:00 PM - Incident# 2810898 (0 lost trips, 6 lost minutes)

Propulsion fault will not clear (125B)144. Slauson Station Train #109, T-250, track #2, southbound.

12/11/2016 5:28:00 AM - Incident# 2810947 (0 lost trips, 6 lost minutes)

Prop/Fault. Train #110. T-363. LRV- 241, (242), 245. Pacific Station, Track #1, Northbound.

12/12/2016 10:05:00 AM - Incident# 2811293 (2 lost trips, 350 lost minutes)

Operator reports of slow movement Train 105 T-262 233-248-(245B) Central Ave., Trk. 2, southbound

12/12/2016 3:57:00 PM - Incident# 2811488 (4 lost trips, 671 lost minutes)

Operator reports of a propulsion fault with a speed resriction Train 108 T-026 (166-164)-104 Firestone station, Trk. 2, southbound

12/14/2016 10:56:00 PM - Incident# 2812559 (1 lost trip, 184 lost minutes)

Cab Door Train 104 T-75 (159)-143 S/B 7th Met +12 minute Delay

12/15/2016 4:06:00 PM - Incident# 2812902 (4 lost trips, 686 lost minutes)

Self applying friction brakes on 301A, Train with no movement. Train 102 T-258 LRV'S (301A) 234-239 Venice Interlocking, Track 2, Southbound.

12/16/2016 5:35:00 AM - Incident# 2813188 (1 lost trip, 172 lost minutes)

Friction brake fault /Traction motor cover exposed. Train 105 T-87 (101)-145-140 Washington S/B

12/16/2016 6:19:00 AM - Incident# 2813100 (0 lost trips, 12 lost minutes)

No Fault no movement Train 116 T-43 (247)-248-240 S/B Wardlow. +12 service delay

12/16/2016 8:17:00 AM - Incident# 2813257 (3 lost trips, 527 lost minutes)

Vehicle System, HSCB Logic fault, HVAC and air compressor, cars #(153A)-112-155 Train #119 T-194

Florence Station, TRack #002, Southbound.

12/17/2016 3:01:00 PM - Incident# 2813659 (2 lost trips, 258 lost minutes)

Operator reports of no movement Train 104 T-415 (239)233-302 San Pedro station, Trk. 2, southbound

12/18/2016 3:56:00 PM - Incident# 2813849 (0 lost trips, 10 lost minutes)

Train 113 reporting Propulsion Faults in LRV 242 Train 113 T-250 LRV'S 301- (242)-245 7th & Metro Center, Track 2, Southbound.

12/19/2016 8:26:00 AM - Incident# 2814067 (1 lost trip, 168 lost minutes)

ATP failure; affecting left/platform bank doors on all three cars, doors would not open. Train 117 T-69 (250-233-239) NB, Compton Station, Track 1

12/20/2016 7:16:00 AM - Incident# 2814513 (1 lost trip, 168 lost minutes)

Propulsion fault Train 114 T-50 126 (130) 120 Slauson Station S/B

12/20/2016 8:13:00 AM - Incident# 2814520 (1 lost trip, 168 lost minutes)

Air pipe BO in the sandbox, making rattling sounds. Train 118 T-187 236-(229)-230 SB, 7th and Metro Center Station, Track 2

12/21/2016 12:24:00 PM - Incident# 2815009 (1 lost trip, 183 lost minutes) Train 107 no movement at Grand station.

12/21/2016 9:41:00 PM - Incident# 2815154 (1 lost trip, 168 lost minutes)

HSCB Trip Train #101 T-307 153A-164 NB, Willow Station, Track #1

12/22/2016 7:06:00 AM - Incident# 2815306 (0 lost trips, 10 lost minutes)

No fault no movement. Train 117 T-194 (101)-131-144 Washington Trk 1

12/22/2016 11:51:00 AM - Incident# 2815409 (1 lost trip, 168 lost minutes)

Propulsion fault. Train 101 T#46 Cars#158,165,(159A) Track 2,Imperial Station,Southbound

12/22/2016 12:03:00 PM - Incident# 2815388 (0 lost trips, 12 lost minutes)

Propulsion fault. Train#111 T-415 Car# 137,127,(122A) Track 1 ,7th and Metro,northbound

12/23/2016 7:07:00 PM - Incident# 2815895 (0 lost trips, 21 lost minutes)

Train 121 Pico Station Northbound T-348

12/23/2016 9:05:00 PM - Incident# 2815918 (1 lost trip, 188 lost minutes)

Friction brakes locked Train 103 T-258 car 140(a) Pacific/5th Northbound

12/24/2016 11:02:00 AM - Incident# 2816030 (0 lost trips, 9 lost minutes)

Doors will not open on 239. Recurring propulsion faults. REPEATER: 2nd day in a row. Train 106 T-182 231-(239)-247

SB, 1st street Station, Track 2

12/28/2016 5:12:00 AM - Incident# 2816878 (0 lost trips, 10 lost minutes)

Propulsion fault Train 104 T-335 (302B)-234-245 7th Metro Trk 2 +10 delay

12/28/2016 7:49:00 AM - Incident# 2816924 (1 lost trip, 193 lost minutes)

Train-105 T-355 Cars 105-(120)-109 Southbound, Track #2 Vernon Station Propulsion / Dynamic Brakes (Blown Motor Fuse) at Vernon Station.

12/29/2016 3:34:00 PM - Incident# 2817498 (1 lost trip, 168 lost minutes)

Train 122 reports propulsion faults with a speed restriction. LRV 122B Train 122 T-307 LRV'S 130- (122B) 149 San Pedro Station, track 1, northbound.

12/30/2016 4:19:00 AM - Incident# 2817646 (1 lost trip, 176 lost minutes)

PROP FAULT Train 102 T-118 (245A)-234-301 N/B 108th Trk 1

12/31/2016 3:45:00 PM - Incident# 2818122 (0 lost trips, 8 lost minutes)

Train 105 reports that he is not able to open doors at platform 2 to pick up patrons. Train 105 T-258

LRV'S (165A) 167-126 Metro Center, Track 2, Southbound.

12/31/2016 4:34:00 PM - Incident# 2818130 (0 lost trips, 8 lost minutes)

Operator reports doors not closing. Train 103 T-246 LRV"S 240-(239) 249 San Pedro Station, Track 2, Southbound.

Wayside Incidents:

12/15/2016 12:25:00 AM - Incident# 2812560 (1 lost trip, 193 lost minutes) Deenergized Washington and Flower Train 627

T-380 1047-1020 Washington and Flower S/B Track 1 + 19 minutes delay N/B to 7th Met + 22 minutes delay from 7th Met

12/22/2016 5:00:00 AM - Incident# 2815204 (0 lost trips, 18 lost minutes) False occupancy track circuit # 1. Switch 13 Trk 1

Police & Health Incidents:

12/3/2016 12:29:00 PM - Incident# 2807959 (0 lost trips, 10 lost minutes) Blockade at Transit Mall, possible PSP.

12/3/2016 2:56:00 PM - Incident# 2807998 (1 lost trip, 116 lost minutes)

Operator reports of Stabbing aboard the Train. Train 108 (107B) 117 T-400 Wardlow Station, Track 1, Northbound 12/8/2016 4:25:00 PM - Incident# 2810231 (0 lost trips, 15 lost minutes) LASD Deputy Lane reports a robbery at the Artesia Station platform.

12/9/2016 9:12:00 AM - Incident# 2810516 (0 lost trips, 12 lost minutes)

Train delay due to police activity

12/11/2016 11:56:00 PM - Incident# 2811097 (0 lost trips, 18 lost minutes)

Person having a seizure aboard car 162, Train 108. Train 108 T-413 Consist 144-162-138 103rd Street Station, Track 1 NB

12/17/2016 7:25:00 AM - Incident# 2813568 (0 lost trips, 22 lost minutes)

Passenger vehicle was was partially blocking track 2 at San Pedro Train 104 T-321 126-151-130 San Pedro, Trk. 1, northbound

12/19/2016 7:26:00 PM - Incident# 2814356 (12 lost trips, 2,012 lost minutes)

Blockade Train 110 NB Track #1 20th X-ing T-201 (126A)-151-130

12/20/2016 5:32:00 AM - Incident# 2814448 (0 lost trips, 6 lost minutes) Passenger reporting individual smoking illegal drugs.

12/20/2016 8:10:00 PM - Incident# 2814774 (0 lost trips, 15 lost minutes)

LASD reports of a passenger on board train 108 that assualted another passenger. Train 108 T-250

149-114-153 Grand station, Trk. 1, northbound

12/29/2016 6:34:00 AM - Incident# 2817281 (16 lost trips, 2,682 lost minutes)

Bomb Threat involving Long Beach Police Dept patrol car at 1st and Pine.

12/30/2016 3:36:00 PM - Incident# 2817915 (2 lost trips, 350 lost minutes)

Train 102 reports a semi-truck blocking tracks 1 and 2 at 41st Grade Crossing.

12/31/2016 1:27:00 PM - Incident# 2818101 (2 lost trips, 323 lost minutes)

Trespasser standing track,1 Hill & Long Beach BI facing northbound in front of train refusing to clear.

Other Incidents:

12/11/2016 9:52:00 AM - Incident# 2811000 (2 lost trips, 348 lost minutes) Late Pull Out.

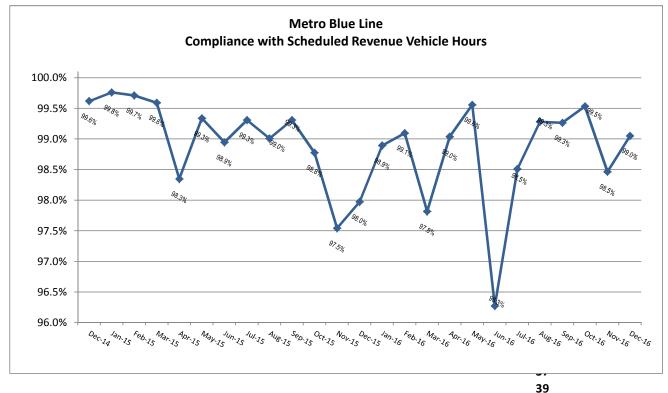
12/19/2016 3:51:00 AM - Incident# 2813926 (0 lost trips, 16 lost minutes)

ATP failure on 129A; train could not clear interlocking. Train 102 T-335 (129A)-115-101 NB, Mainyard Interlocking 3N, arrival track

12/20/2016 5:00:00 AM - Incident# 2814431 (0 lost trips, 17 lost minutes)

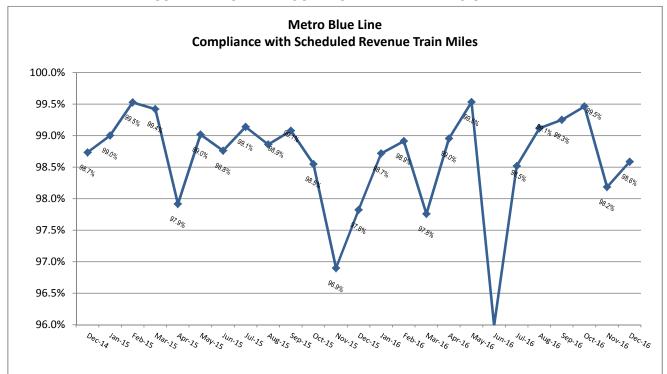
Train delay from the yard Train 109 T-390 233-239-247 Blue LineYard 17 minute delay

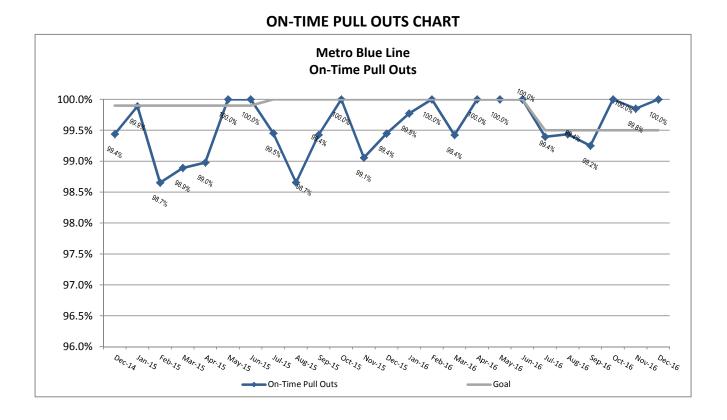
MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS



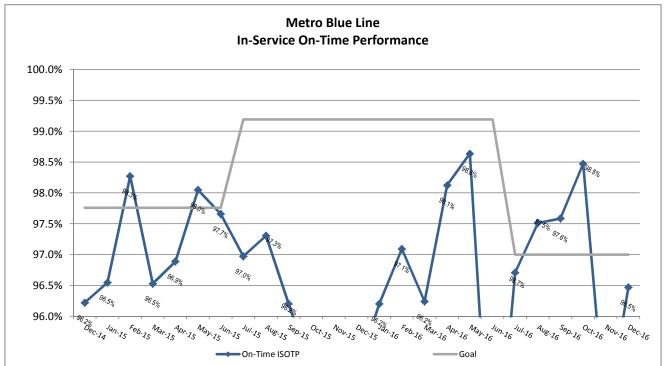
COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART

COMPLIANCE WITH SCHEDULED TRAIN MILES CHART

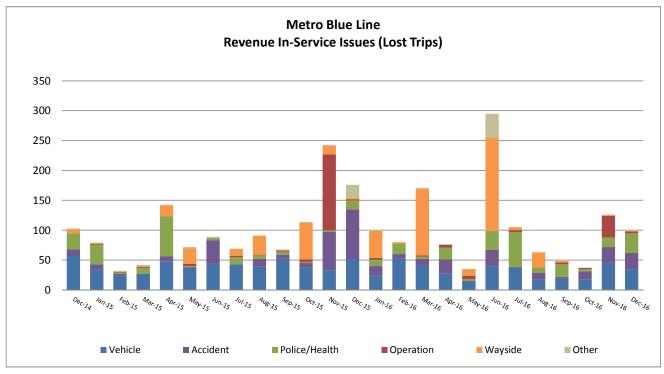




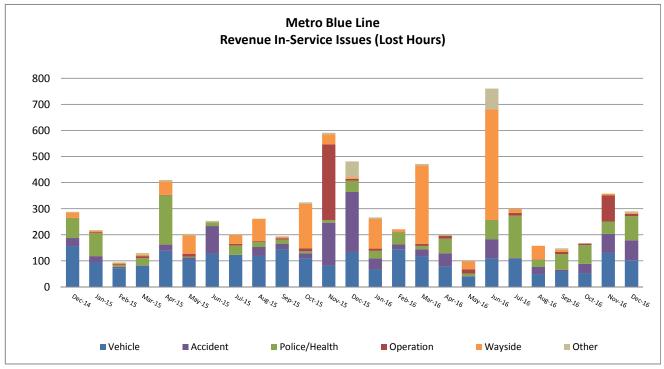
IN-SERVICE ON-TIME PERFORMANCE CHART

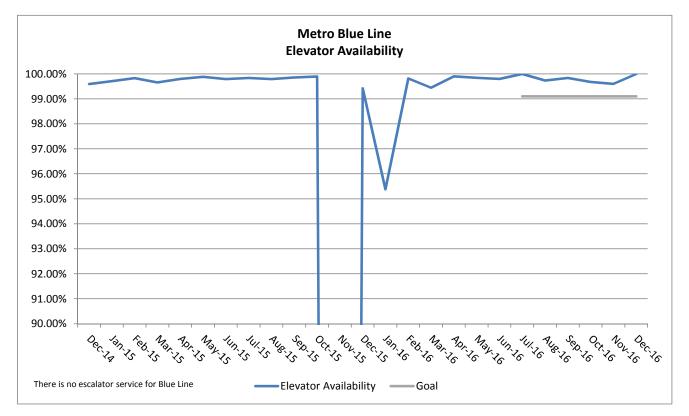


LOST TRIPS



LOST HOURS





VERTICAL TRANSPORTATION AVAILABILITY

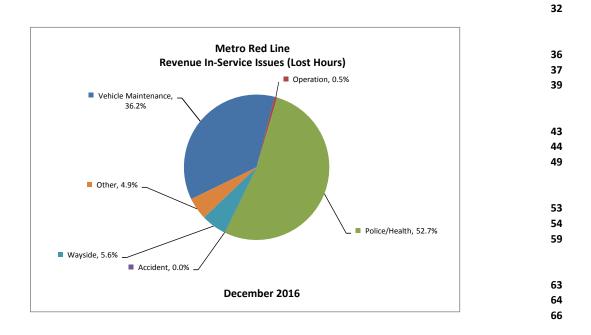
RED LINE

Out of a total of 26,758 hours operated, there were approximately 56 total hours of service delays.

	Revenue	
December 2016 Service Hours *	Hours	Per Cent
Revenue Hours without Delays	26,702	99.8%
Cancelled + Delayed Hours	56	0.2%
Total Revenue Hours	26,758	100.0%

Summary of the major contributors:	Count	Hours	Per Cent
Operations	3	0.3	0.5%
Accidents	0	0.0	0.0%
Vehicle Maintenance	9	20.4	36.2%
Wayside	3	3.2	5.6%
Police & Health	10	29.7	52.7%
Other	2	2.8	4.9%
Total	27	56.4	100.0%

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



December 2016 Red Line major delay contributors were as follows:

Operations Incidents:

12/18/2016 4:55:00 PM - Incident# 2813853 (0 lost trips, 10 lost minutes) T-012 reported Emergency intercom activation at Wilshire Vermont AR Platform.

12/23/2016 11:44:00 AM - Incident# 2815748 (0 lost trips, 6 lost minutes)

T-074 reports he needs to operate in ATO due to his eyes burning, head ache, does not feel safe to operate in MTO. T-074 states symptoms resulted from the strong odor of urine from an individual that has been urinating on trains through out the morning.

12/25/2016 5:14:00 PM - Incident# 2816198 (0 lost trips, 2 lost minutes)

Train 201 T-199 reports a patron jumped onto the AR Trackway, at Westlake Station.

Vehicle Maintenance Incidents:

12/1/2016 8:50:00 AM - Incident# 2806872 (0 lost trips, 9 lost minutes)

No Hollywood Station AR Track, Train-204 T-10 consist #522-527-530-521-512-511 with several door issues on car #512.

12/2/2016 6:13:00 PM - Incident# 2807771 (1 lost trip, 155 lost minutes)

T-015 reported friction won't release on car 521. T-015 Train 215 Cars: (521) 530 517 518 507 510 Union Station AL West

12/6/2016 4:32:00 PM - Incident# 2809294 (0 lost trips, 7 lost minutes)

Train 214 (521,530,513,514,515,516) T-328, Union Station, AL reports reocurring emergency brake application. Operting car 565.

12/8/2016 12:35:00 AM - Incident# 2809842 (1 lost trip, 158 lost minutes)

Operator reports CB1 trip & low air pressure on cars 519/526. Train 209 T-317 Cars 527 522 (519 526). Wilshire Normandie BR west.

12/8/2016 5:20:00 AM - Incident# 2809869 (4 lost trips, 610 lost minutes)

Low Air Pressure with emergency brakes and parking brakes applied Train 211 T-012 Cars 543-544-545-546-(539)-540 AL Between Universal City and Hollywood Highland CP 43

12/8/2016 10:25:00 AM - Incident# 2810124 (0 lost trips, 4 lost minutes)

Train 208 (507,510,521,530) T-278, North Hollywood Station, AR, reports emegency brake application.

12/12/2016 10:35:00 AM - Incident# 2811307 (1 lost trip, 159 lost minutes)

Car 550 Emergency Brake Application, unable to reset Train 209 T-328 Consist 581-582-549-550

12/25/2016 6:25:00 AM - Incident# 2816121 (1 lost trip, 116 lost minutes)

Emergency brakes self apply in the west interlocking while departing Union Station. Train-208 T-312 Westbound Union

(511) 512 509 508

12/30/2016 11:36:00 PM - Incident# 2817984 (0 lost trips, 8 lost minutes)

Doors do not open on car 531,532,593,595(543)544. Universal City Station Train #214, T-199, AL, eastbound.

Wayside Incidents:

12/5/2016 10:07:00 AM - Incident# 2808598 (0 lost trips, 8 lost minutes)

Westlake/MacArthur AL Track, Train-201 T-15 575-576-580-579 requesting authorization to invest smoke in tunnel just east of station location.

12/11/2016 10:39:00 PM - Incident# 2811087 (1 lost trip, 174 lost minutes)

Breakers D03 Vermont Beverly and D08 Wilshire Vermont not able to close.

12/29/2016 2:02:00 PM - Incident# 2817487 (0 lost trips, 8 lost minutes)

TRACS indicated Union Station West interlocking switch 1A, 1B out of correspondence.

Police & Health Incidents:

12/3/2016 2:20:00 PM - Incident# 2808006 (2 lost trips, 232 lost minutes) Man with a gun on Train 208 car 587 at North Hollywood.

12/5/2016 2:57:00 AM - Incident# 2808641 (0 lost trips, 5 lost minutes)

Report of male black adult, half naked causing disturbance.

12/8/2016 5:38:00 PM - Incident# 2810248 (0 lost trips, 4 lost minutes)

Union Station female patron requesting medical assistance on board Train # 214 A/L Platform.

12/10/2016 4:36:00 AM - Incident# 2810745 (0 lost trips, 14 lost minutes)

Altercation on Train 202 T-278 Cars 537-538-547-(548) Hollywood Highland AR West

12/15/2016 8:08:00 AM - Incident# 2812653 (0 lost trips, 10 lost minutes)

Altercation between two females Train 210 T-127 Cars (533)-534-573-574-535-536 Pershing Square AR West

12/19/2016 10:05:00 AM - Incident# 2814138 (10 lost trips, 1,484 lost minutes)

Reports trespasseron the AR track walking towards Civic Center.

12/25/2016 11:16:00 AM - Incident# 2816155 (0 lost trips, 10 lost minutes)

LASD and LAPD requeted trains 205 and 208 to hold at Vermont/Santa Monica, due to suspects currently at platform level.

12/26/2016 3:11:00 PM - Incident# 2816345 (0 lost trips, 2 lost minutes)

Train 207 car 578 an individual is laying unresponsive on the floor.

12/31/2016 5:04:00 AM - Incident# 2818000 (0 lost trips, 10 lost minutes)

Train 204 T-276 reports a trespasser on the Vermont/Santa Monica interlocking.

12/31/2016 5:15:00 PM - Incident# 2818142 (0 lost trips, 12 lost minutes)

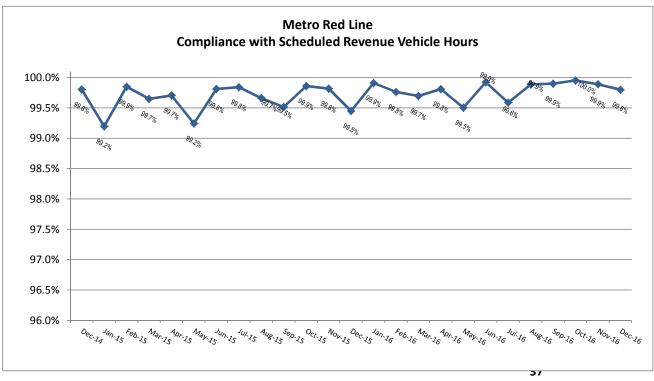
Patron reports being assaulted, medical assistance requested. Westlake Station

Other Incidents:

12/6/2016 8:57:00 AM - Incident# 2809018 (0 lost trips, 11 lost minutes) Train 203 reports smoke in the east interlocking at Westlake Station. T-80 517 518 507 508 Westlake Station AL Eastbound

12/16/2016 3:50:00 AM - Incident# 2813057 (1 lost trip, 156 lost minutes) Loss of SCADA due to update.

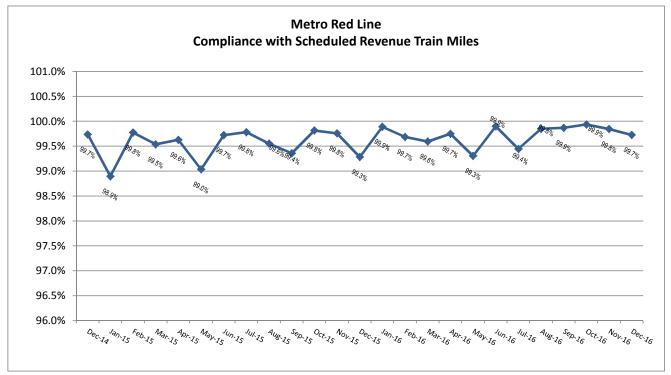
MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS

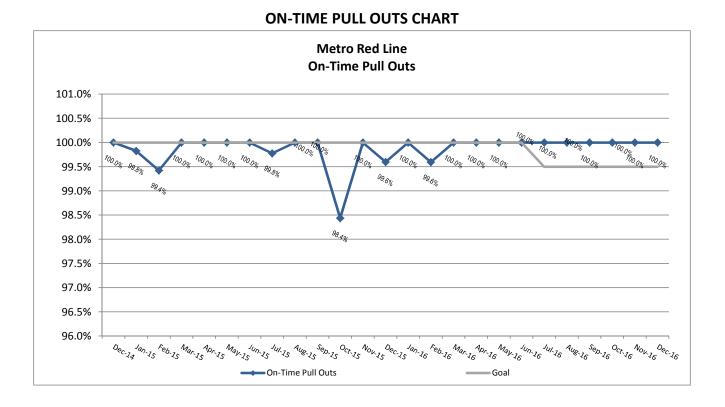


COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART

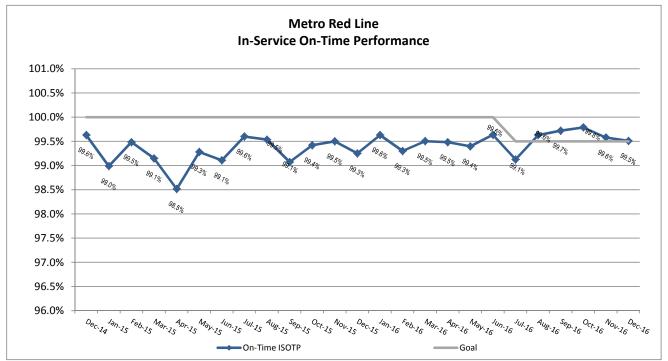
COMPLIANCE WITH SCHEDULED TRAIN MILES CHART

39

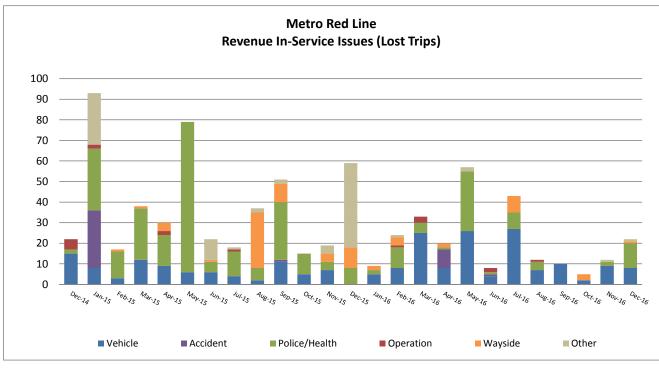




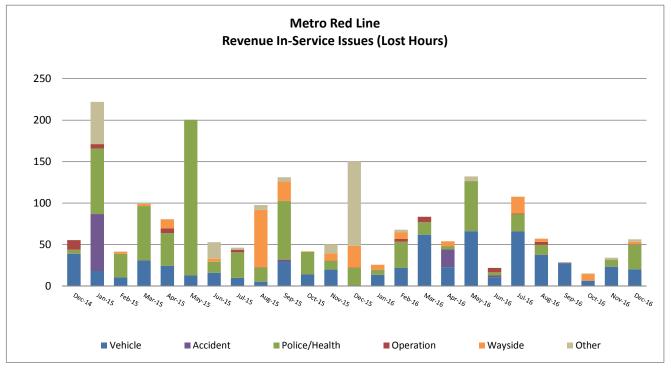
IN-SERVICE ON-TIME PERFORMANCE CHART

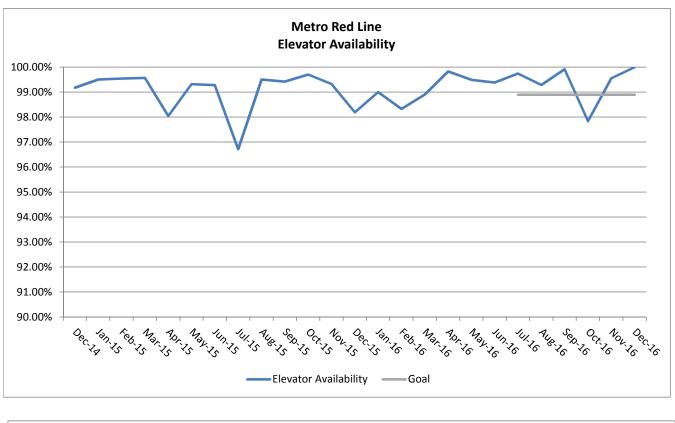




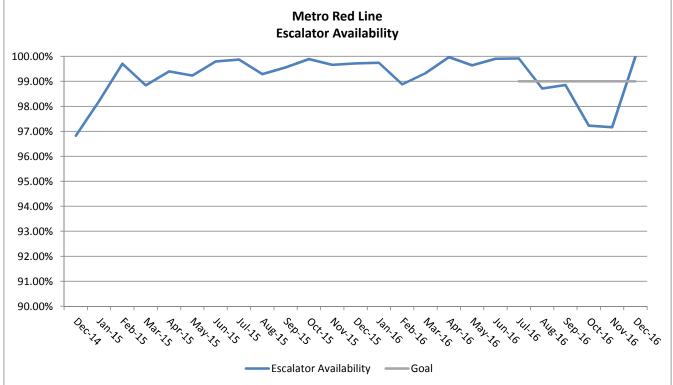


LOST TRIPS





VERTICAL TRANSPORTATION AVAILABILITY



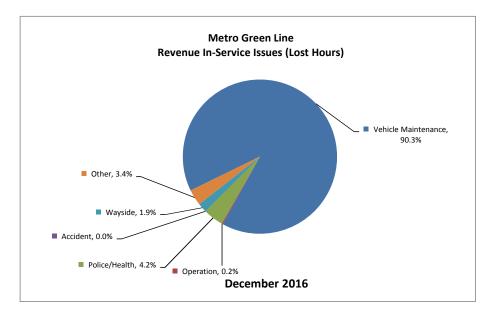
GREEN LINE

Out of a total of 8,170 hours operated, there were approximately 38 total hours of service delays.

	Revenue	
December 2016 Service Hours *	Hours	Per Cent
Revenue Hours without Delays	8,133	99.5%
Cancelled + Delayed Hours	38	0.5%
Total Revenue Hours	8,170	100.0%

Summary of the major contributors:	Count	Hours	Per Cent
Operations	1	0.1	0.2%
Accidents	0	0.0	0.0%
Vehicle Maintenance	33	34.0	90.3%
Wayside	2	0.7	1.9%
Police & Health	3	1.6	4.2%
Other	3	1.3	3.4%
Total	42	37.7	100.0%

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



December 2016 Green Line major delay contributors were as follows:

Operations Incidents:

12/20/2016 4:39:00 PM - Incident# 2814725 (0 lost trips, 5 lost minutes) Train Delay, 5 minutes Train #343 T-255 Norwalk Station, Track #001, Westbound

Vehicle Maintenance Incidents:

12/1/2016 6:27:00 AM - Incident# 2806789 (1 lost trip, 68 lost minutes) Propulsion Fault / Speed Restriction / ATP Fail (204)-215 Train 244 T-20 Douglas, eastbound

12/1/2016 1:36:00 PM - Incident# 2807035 (1 lost trip, 68 lost minutes)

ATP Failure Car 214 Train 334 Mile Marker 8.9 Eastbound.

12/1/2016 6:16:00 PM - Incident# 2807148 (1 lost trip, 75 lost minutes) ATP Failure/door will not open Car 228 Train 352 Lakewood Station

Westbound

12/3/2016 4:31:00 AM - Incident# 2807848 (0 lost trips, 10 lost minutes)

Propulsion faults. Speed restriction. Train 333 Track 2, E/B T-458 Marine Station ATO & MTO modes (213A)-204

12/4/2016 10:25:00 AM - Incident# 2808197 (0 lost trips, 5 lost minutes)

Propulsion fault on 205. Train 333 T-260 (205)-225 EB, Douglas Station, Track 2

12/5/2016 7:40:00 AM - Incident# 2808496 (1 lost trip, 79 lost minutes)

Friction Brakes (226)-220 Train 332 T-112 Mariposa, Westbound, Track 1

12/5/2016 2:54:00 PM - Incident# 2808711 (0 lost trips, 12 lost minutes)

Friction Brake Fault- No Movement 214B Train 331 T-458 (214B)-225 Avalon, Track 2, East

12/5/2016 6:53:00 PM - Incident# 2808785 (2 lost trips, 131 lost minutes)

Friction brake fault on car (208)-204 Train 331 Track 2 Eastbound Just west of crenshaw IL ATO MODE

12/6/2016 4:47:00 AM - Incident# 2808870 (0 lost trips, 9 lost minutes)

Auto Train Protection (Speed Limit), 225- (217) Train #344 T-274 Yard Interface, Track #002, Eastbound

12/6/2016 1:07:00 PM - Incident# 2809159 (0 lost trips, 15 lost minutes)

Friction Brake fault on car 214 T-458, train 333 (214)-208 Marine, track 2, east

12/6/2016 3:23:00 PM - Incident# 2809241 (0 lost trips, 7 lost minutes)

Car 207 overshot platform in ATO T-177, train 352 (207)-243 Lakewood, track 1, west

12/7/2016 1:54:00 PM - Incident# 2809675 (2 lost trips, 147 lost minutes)

Propulsion fault Train 335 Car 219 Westbound Wilmington Pocket

12/7/2016 7:18:00 PM - Incident# 2809792 (2 lost trips, 132 lost minutes)

Friction brake fault Train 351 Car 226 Wilmington Station Eastbound

12/8/2016 2:57:00 PM - Incident# 2810209 (0 lost trips, 7 lost minutes)

Propulsion / Dynamic Brakes, (220A)-225 Train #335 T-140 Aviation Station, Track #002, Eastbound

12/9/2016 7:15:00 AM - Incident# 2810442 (1 lost trip, 64 lost minutes)

Propulsion Fault / Speed Restriction / Pantograph Down 202-(222) Train 346 T-141 Willowbrook, westbound

12/9/2016 2:14:00 PM - Incident# 2810638 (3 lost trips, 193 lost minutes)

Friction brakes no movement (214)-208 T-343 Train 333 Track 1 Westbound West of El Segundo station ATO MODE

12/12/2016 4:12:00 AM - Incident# 2811134 (0 lost trips, 5 lost minutes)

Propulsion Fault Speed Restriction (221)-208 Train 338 T-210 Mariposa, eastbound

12/13/2016 6:45:00 AM - Incident# 2811696 (0 lost trips, 15 lost minutes)

Car 212B Re-occurring overspeed and loss of cab signals Train 333 T-458 Mariposa Station track 1 Westbound T-112 Avalon Station track 1 Westbound Consist 212-222

12/14/2016 5:08:00 AM - Incident# 2812093 (1 lost trip, 76 lost minutes)

Report of flat wheels due to self applying friction brakes. Train 337 T-141 Track 2, E/B Hawthorne Station ATO mode (214A)-204

12/16/2016 3:23:00 PM - Incident# 2813415 (5 lost trips, 322 lost minutes)

CB1 trip on car (211)-210 T-458 Train 346 Track 2 Eastbound El Segundo station ATO MODE

12/16/2016 5:52:00 PM - Incident# 2813482 (1 lost trip, 64 lost minutes)

Propulsion Fault unable to clear on Train 343 (228)-218 T-220 Lakewood Station West Bound Track #1.

12/18/2016 12:30:00 PM - Incident# 2813809 (0 lost trips, 8 lost minutes)

Car 204B prop fault speed restriction T-257 Train-334 Consist(204B)220 Wilmington Station, Track#1, Eastbound

12/19/2016 4:18:00 AM - Incident# 2813930 (1 lost trip, 74 lost minutes)

Propulsion Fault (203)-218 Train 333 T-202 Yard Interface, westbound

12/19/2016 3:03:00 PM - Incident# 2814290 (2 lost trips, 139 lost minutes)

Propulsion / Dynamic Brakes, cars #(210A)-213 Train #334 T-044 Avalon Station, Track #002, Eastbound.

12/19/2016 10:02:00 PM - Incident# 2814377 (1 lost trip, 66 lost minutes)

Operator reports overspeed on Car 212. Car 212 Train 344 T-450 Douglas TRK 2, eastbound

12/23/2016 6:50:00 AM - Incident# 2815633 (1 lost trip, 70 lost minutes)

\Train 340 with T-257 reports Friction Brake faults at Wilmington west pocket on track 2 with no movement. Car 207B with 203

12/23/2016 9:52:00 AM - Incident# 2815710 (0 lost trips, 10 lost minutes)

Propulsion / Dynamic Brakes (222)-205 T-57 Train 333 Aviation, Eastbound, Track 2

12/27/2016 6:20:00 AM - Incident# 2816476 (0 lost trips, 5 lost minutes)

Propulsion faults with speed restriction. Train 340 Track 2, E/B Marine Station T-257 ATO & MTO modes (222B)-226

12/28/2016 6:46:00 AM - Incident# 2816901 (0 lost trips, 8 lost minutes)

Train 334, LRV's (204A) and 22. Avalon station westbound on track 1. Prop Fault and only doing 30mph.

12/28/2016 10:03:00 AM - Incident# 2816974 (0 lost trips, 16 lost minutes)

Train 335, LRV's 217 and 205. Westbound track 1 Long Beach Station. Prop fault with speed restriction.

12/28/2016 3:09:00 PM - Incident# 2817092 (0 lost trips, 8 lost minutes)

Operator reports friction brake fault with no movement. Cars 223, 214 Train 336 T-396 6.3 TRK 2, eastbound

12/28/2016 8:44:00 PM - Incident# 2817210 (1 lost trip, 72 lost minutes)

Operator reports that he has an overspeed on Car 226A. Cars 222, 226 Train 342 T-496 Lakewood TRK 1, westbound

12/31/2016 6:42:00 PM - Incident# 2818146 (1 lost trip, 59 lost minutes)

Propulsion Fault on Train 351 Train 35 203-(219) T-458 Lakewood Station Westbound Track #1.

Wayside Incidents:

12/21/2016 12:14:00 PM - Incident# 2815007 (0 lost trips, 24 lost minutes) Track circuit 311 false occupancy.

12/29/2016 6:04:00 AM - Incident# 2817271 (0 lost trips, 20 lost minutes)

Track Circuit 23: Track #002, False Occupancy SCADA/ARINC Marine Interlocking.

Police & Health Incidents:

12/1/2016 10:07:00 AM - Incident# 2806898 (1 lost trip, 74 lost minutes) Medical Emergency at Lakewood Station

12/3/2016 1:34:00 PM - Incident# 2807978 (0 lost trips, 6 lost minutes) LASD reports Trespasser west of wilmington station

12/8/2016 2:09:00 PM - Incident# 2810177 (0 lost trips, 15 lost minutes)

Altercations aboard trains, cars (204)-218 Train #331 T-496 Harbor Station, Track #002, Eastbound.

Other Incidents:

12/12/2016 6:29:00 AM - Incident# 2811168 (1 lost trip, 66 lost minutes) Train 341 has been dispatched out late from Green Line Yard.

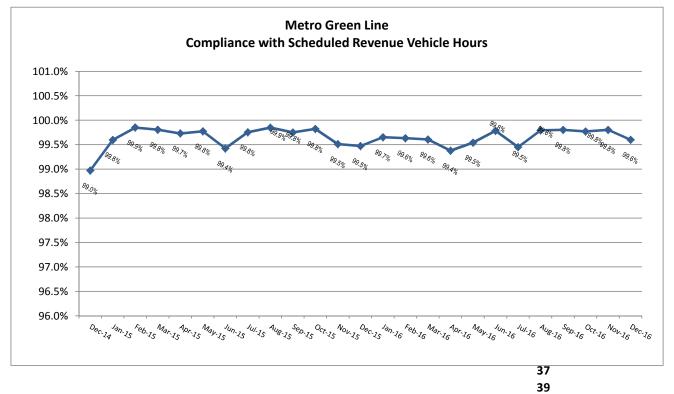
12/12/2016 4:13:00 PM - Incident# 2811494 (0 lost trips, 6 lost minutes)

Operator reports a large amount to fecess on Car 216. Cars (216), 218 Train 332 T-409 Marine, TRK 2, westbound

12/19/2016 9:56:00 AM - Incident# 2814108 (0 lost trips, 4 lost minutes) Emergency Exit: Emergency Access Gate

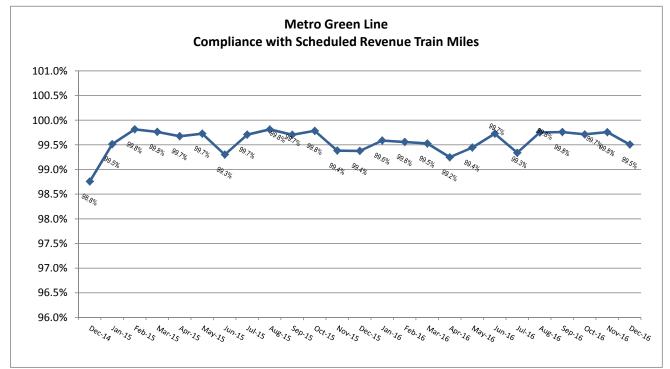
SCADA Mariposa West

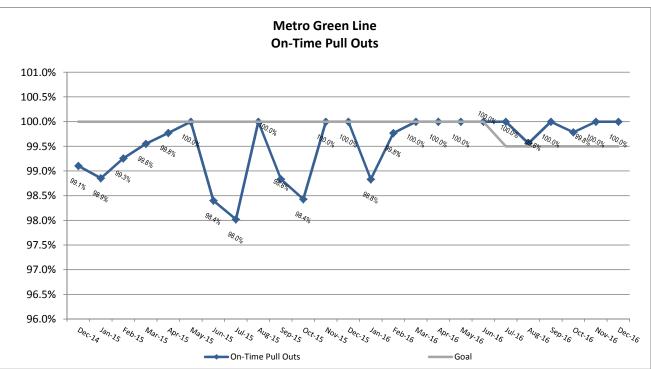
MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS



COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART

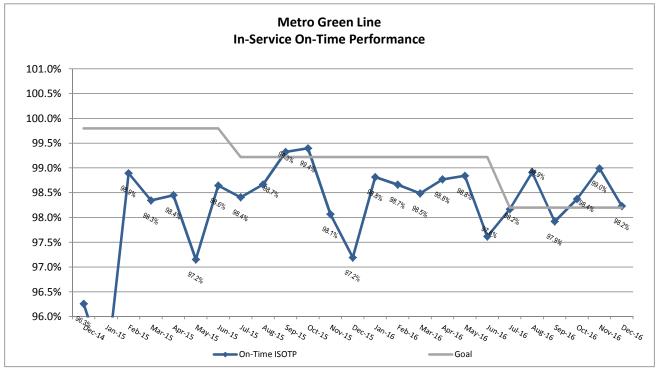
COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



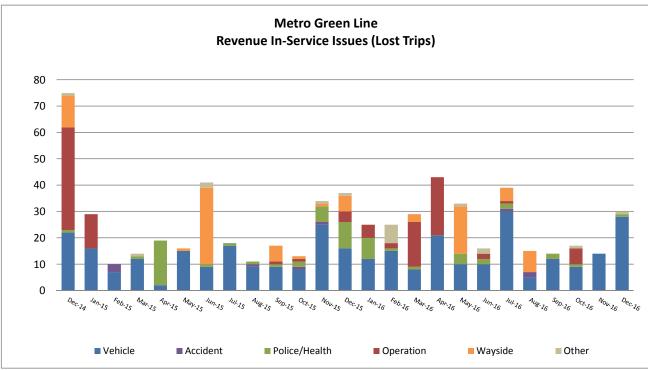


ON-TIME PULL OUTS CHART

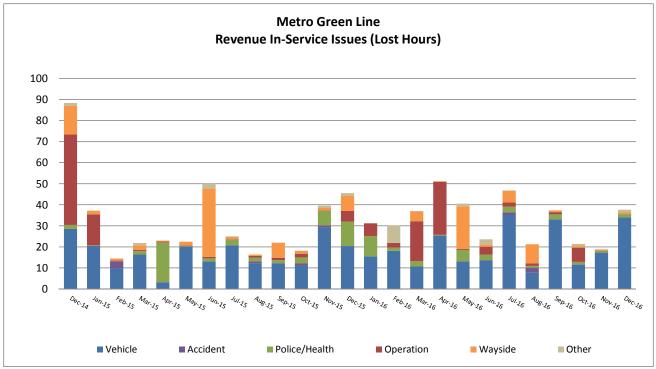
IN-SERVICE ON-TIME PERFORMANCE CHART

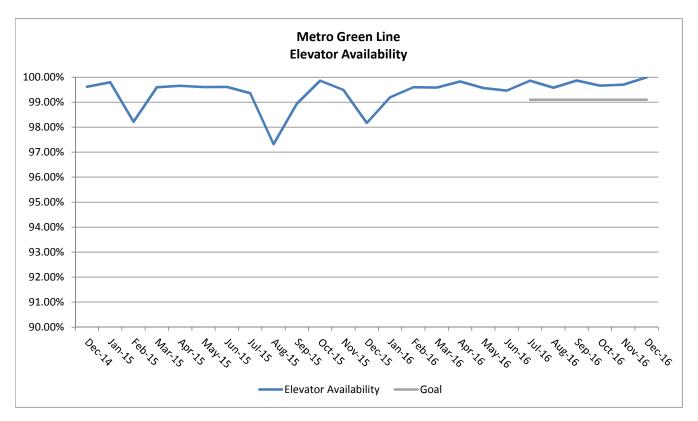




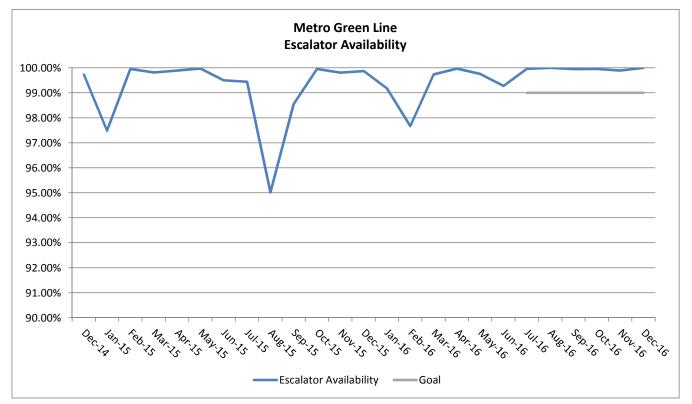


LOST HOURS





VERTICAL TRANSPORTATION AVAILABILITY



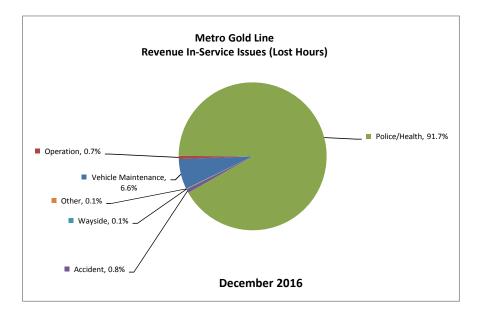
GOLD LINE

Out of a total of 19,666 hours operated, there were approximately 651 total hours of service delays.

	Revenue		
December 2016 Service Hours *	Hours	Per Cent	
Revenue Hours without Delays	19,014	96.7%	
Cancelled + Delayed Hours	651	3.3%	
Total Revenue Hours	19,666	100.0%	

Summary of the major contributors:	Count	Hours	Per Cent
Operations	5	4.6	0.7%
Accidents	1	5.2	0.8%
Vehicle Maintenance	27	43.1	6.6%
Wayside	4	0.7	0.1%
Police & Health	11	597.4	91.7%
Other	3	0.4	0.1%
Total	51	651.5	100.0%

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



December 2016 Gold Line major delay contributors were as follows:

Operations Incidents:

12/3/2016 12:46:00 AM - Incident# 2807825 (1 lost trip, 234 lost minutes) Train 422 SB Trip Cancelled Citrus to Duarte

12/9/2016 12:11:00 PM - Incident# 2810571 (0 lost trips, 18 lost minutes)

Train Delay See M3#2,810,526, Scheduling problem Train #452 T-151 South Pasadena Station, Southbound

12/16/2016 6:15:00 AM - Incident# 2813109 (0 lost trips, 10 lost minutes)

R-89 and R-93 will take over trains on the mainline as instruction trains from Azusa / Citrus to Union Station.

12/21/2016 10:34:00 AM - Incident# 2814974 (0 lost trips, 4 lost minutes) Train Delay, radio communication announcement of the month being made

Train #454 T-452 Atlantic Station, Track #00, Northbound

12/27/2016 6:14:00 PM - Incident# 2816799 (0 lost trips, 10 lost minutes) Train 402 Lost Headway SB From Azusa Citrus Station

Accidents:

12/29/2016 12:10:00 AM - Incident# 2817232 (1 lost trip, 314 lost minutes) 10-72 south of Arcadia Station approximately 200 feet T-137 Train 439 Consist (736A)718 Arcadia Station, Track #1, Northbound

Vehicle Maintenance Incidents:

12/1/2016 4:59:00 AM - Incident# 2806771 (1 lost trip, 232 lost minutes) (742)-746 HSCB Fault W/ Speed Restriction Train 405 NB Irwindale T-14

12/1/2016 5:18:00 AM - Incident# 2806774 (0 lost trips, 13 lost minutes) (1012)-1010

Propulsion Fault/No Movement Train 413 SB Indiana T-19

12/2/2016 6:43:00 AM - Incident# 2807310 (0 lost trips, 10 lost minutes)

High Speed Fault / Propulsion Dynamic Brake Fault/Speed Rest. 717-(724) T-156 Train 417 Atlantic Station, northbound

12/2/2016 8:04:00 AM - Incident# 2807349 (0 lost trips, 6 lost minutes)

Auto Train Protection (Speed Limit), Cars #(1009A)-1011 Train #404 T-018 Allen Interlocking, Track #002, Southbound.

12/3/2016 7:03:00 PM - Incident# 2808073 (0 lost trips, 12 lost minutes) (1008)-1007

ATP Failure Train 404 NB Little Tokyo T-452

12/7/2016 12:01:00 PM - Incident# 2809638 (2 lost trips, 462 lost minutes)

Report of smoke on LRV 1007-1010 T-203 Train 413 LRV 1007-1010 Arcadia Station, Track 1, northbound.

12/7/2016 7:56:00 PM - Incident# 2809804 (0 lost trips, 20 lost minutes)

Pantograph Damage 741 Train 403 T-290 741-750 Tk 1 NB Monrovia Station

12/8/2016 11:36:00 AM - Incident# 2810115 (0 lost trips, 18 lost minutes)

Propulsion / Dynamic Brakes LRV 1012-1006 T-103 Train 403 LRV 1012-1006 Chinatown Station, Track 1, northbound.

12/9/2016 5:15:00 PM - Incident# 2810677 (0 lost trips, 13 lost minutes)

HSCB Trip, Cars #(716B)-724 Train #406 T-189 Fillmore Station, Track #002, Southbound.

12/10/2016 2:09:00 AM - Incident# 2810737 (0 lost trips, 7 lost minutes)

(1006)-1009 Propulsion/APS Fault Train #434 SB Arcadia T-290

12/13/2016 5:07:00 AM - Incident# 2811619 (0 lost trips, 12 lost minutes)

Train 416, Cars (1012), 1011, and 1008. APU/Citrus Station, Track 2 south. Unable to clear carwash mode (5mph).

12/13/2016 1:18:00 PM - Incident# 2811882 (0 lost trips, 5 lost minutes)

LVPS fault on car 1015 R-93, train 403 (1015)-1005 Atlantic Station, track 2, north

12/13/2016 6:00:00 PM - Incident# 2811956 (1 lost trip, 235 lost minutes) CCTV received report from a passenger that a set of doors opened and closed in car 739B while train was in motion.

12/17/2016 4:28:00 PM - Incident# 2813679 (0 lost trips, 7 lost minutes)

Propulsion / Dynamic Brakes, cars #(719-737) Train #410 T-452 Pasadena Monterey, Track #00, Southbound 12/19/2016 8:09:00 AM - Incident# 2814024 (0 lost trips, 4 lost minutes) Train 411, Cars (713) and 717. APU/Citrus station, platform 2 south. HSCB and TCU trouble.

12/19/2016 9:21:00 PM - Incident# 2814380 (0 lost trips, 10 lost minutes)

Friction Brake fault on out of service train 425 Track 1 NB Filmore Station T-189 731-749

12/19/2016 11:05:00 PM - Incident# 2814385 (0 lost trips, 12 lost minutes)

Major and Minor Propulsion fault 718 T-203 Track 2 SB APU Citrus Station 718-726-719

12/21/2016 10:11:00 AM - Incident# 2814969 (0 lost trips, 12 lost minutes)

Announcements, P.A not working, cars #1015-1007 Train#404 T-019 Downtown Azusa, Track #002, Southbound

12/21/2016 6:55:00 PM - Incident# 2815136 (1 lost trip, 244 lost minutes)

Prop Faults Train 401 Cars (743B-736) T-447 Southbound, track 2, Arcadia station

12/21/2016 8:31:00 PM - Incident# 2815145 (1 lost trip, 244 lost minutes)

Prop Faults Train 454 Cars (706-707) T-137 Southbound, track 2, Arcadia station

12/23/2016 4:35:00 AM - Incident# 2815584 (0 lost trips, 25 lost minutes)

No Fault - No Movement (1006)-1005 T-103 Train 455 4BS, Southbound, Track 2

12/26/2016 7:33:00 AM - Incident# 2816262 (0 lost trips, 7 lost minutes)

Train 407, LRV's 1010 and 1015. APU/Citrus station, platform 1 south. Low air pressure in both cars.

12/27/2016 5:58:00 AM - Incident# 2816455 (1 lost trip, 234 lost minutes)

No Head lights 750-(726B) Train 420 T-280 Downtown Azusa, southbound

12/27/2016 5:36:00 PM - Incident# 2816787 (0 lost trips, 6 lost minutes)

Train 431 (731,724) T-207, Allen Station, track 2 has reocurring propulsion fault in car 731.

12/27/2016 6:43:00 PM - Incident# 2816801 (0 lost trips, 12 lost minutes)

(1013)-1008-1011 Propulsion Fault/Speed Restriction Train 440 SB Duarte T-207/433

12/28/2016 5:45:00 AM - Incident# 2816882 (2 lost trips, 488 lost minutes)

ATP Fail / No Movement 1011-(1008) Train 403 T-159 Sierra Madre signal 8s, southbound

12/28/2016 4:22:00 PM - Incident# 2817124 (1 lost trip, 234 lost minutes)

Train 405 (713,731) T-499 departing APU through Irwindale Station reports reocurring ATP fault indications with no movement which do clear with trouble shooting.

Wayside Incidents:

12/13/2016 8:35:00 AM - Incident# 2811716 (0 lost trips, 5 lost minutes) Loss Of Cab Signaling/Directionals at Fillmore Station, track 2

12/17/2016 7:15:00 AM - Incident# 2813559 (0 lost trips, 9 lost minutes)

MT-146 and MT-11 will perform debris removal from Pasadena Monterry grade-crossing to Arroyo Seco on track 1.

12/18/2016 4:45:00 AM - Incident# 2813732 (0 lost trips, 9 lost minutes)

ARINC SUMMARY ALARMS indicates crossing gates are held down at Fremont, Hope, Mission, El Centro, Orange Grove and Indiana grade crossings due to track circuit overlay alarms.

12/27/2016 11:20:00 PM - Incident# 2816868 (0 lost trips, 16 lost minutes)

MS-152 and MS-12 will replace the switch machine at Sierra Madre IL switch 3b.

Police & Health Incidents:

12/1/2016 7:37:00 AM - Incident# 2806846 (0 lost trips, 5 lost minutes) Passenger Problem verbal altercation onboard LRV 737B.

12/3/2016 1:24:00 PM - Incident# 2807975 (0 lost trips, 12 lost minutes) Alleged male with gun.

12/3/2016 3:22:00 PM - Incident# 2808007 (1 lost trip, 224 lost minutes)

Car 721A sick. T-180 Train 412 Cars 750-(721B) Citrus Station, Track 2, southbound.

12/7/2016 8:20:00 AM - Incident# 2809542 (21 lost trips, 4,873 lost minutes) Individual left a brief case wrapped with a T-shirt on the north end of Lake Station.

12/8/2016 12:39:00 PM - Incident# 2810141 (0 lost trips, 12 lost minutes) Verbal sexual harassment on board Train 401 LRV 728 at Atlantic Station.

12/12/2016 4:33:00 PM - Incident# 2811507 (0 lost trips, 23 lost minutes) Operator notified control of an individual making threats against passengers. Heritage Square station

12/14/2016 8:30:00 PM - Incident# 2812479 (0 lost trips, 13 lost minutes)

Trains held clear of Chinatown while LASD apprehends someone.

12/18/2016 7:09:00 PM - Incident# 2813868 (0 lost trips, 4 lost minutes)

Individual Was Vomiting and Requested Medical Assistance

12/22/2016 4:50:00 AM - Incident# 2815217 (129 lost trips, 30,201 lost minutes)

OCS damaged. Esatbound lanes on 210 freeway. East of San Gabriel Bvd. Tractor trailor vehicle drifted into the ROW causing damage to the concrete barrier and OCS poles. Mile post 12.9.

12/22/2016 3:23:00 PM - Incident# 2815460 (2 lost trips, 468 lost minutes)

Blockade, Cars #(707-705) Train #453 T-207 Rowan Street, Track #002, Northbound.

12/22/2016 6:43:00 PM - Incident# 2815541 (0 lost trips, 10 lost minutes) Individual Was Reported to be Bleeding on Car 718

Other Incidents:

12/10/2016 5:10:00 PM - Incident# 2810885 (0 lost trips, 8 lost minutes)

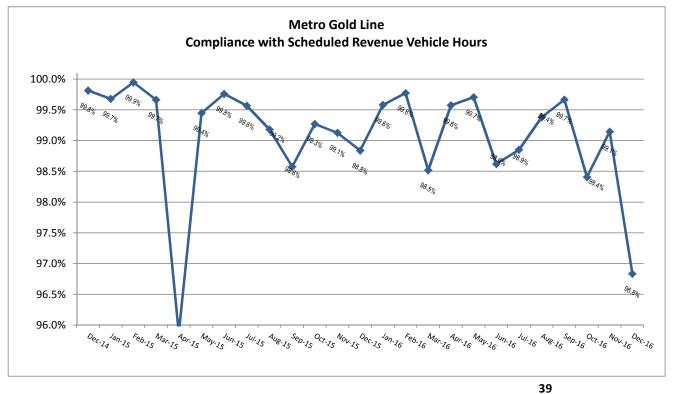
Dity car (739), 742 Train 410 T-189 Sierra Madre Station Northbound

12/15/2016 9:08:00 AM - Incident# 2812686 (0 lost trips, 5 lost minutes)

Dirty car 720-713 T-440 Train 402 LRV 720-713 Duarte Station, Track 2, southbound.

12/19/2016 7:44:00 AM - Incident# 2814014 (0 lost trips, 13 lost minutes) Train 405 reports medical emergency.

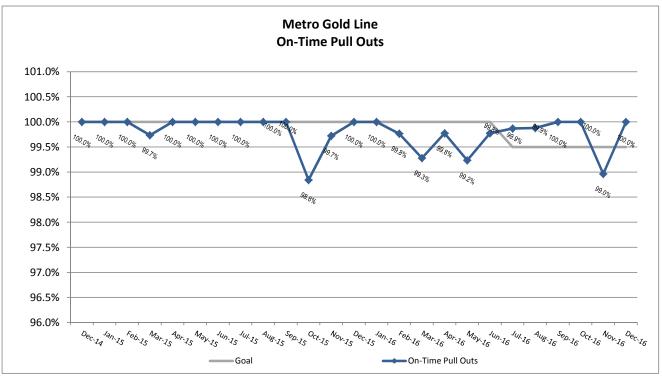
MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS



COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART

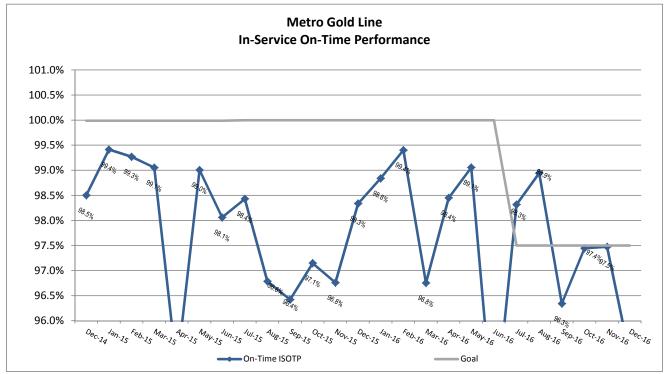
COMPLIANCE WITH SCHEDULED TRAIN MILES CHART



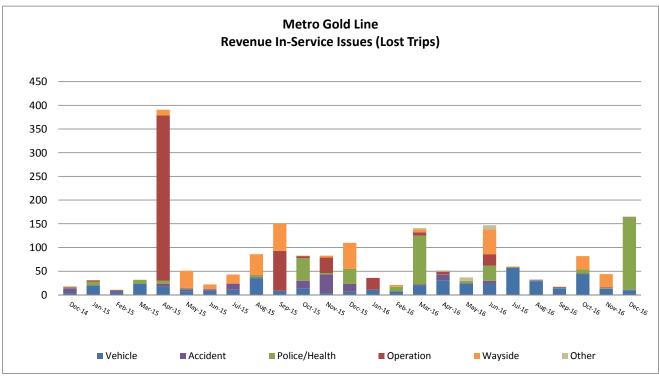


ON-TIME PULL OUTS CHART

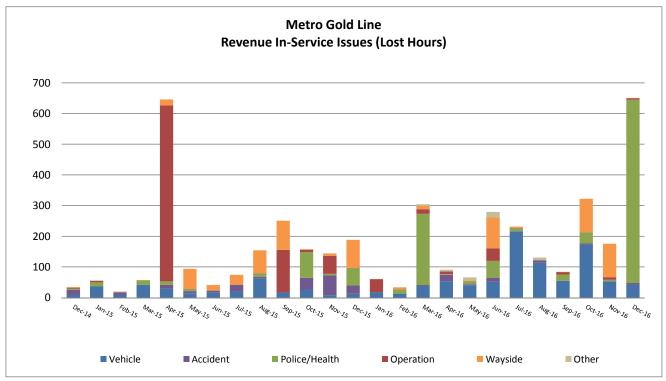
IN-SERVICE ON-TIME PERFORMANCE CHART

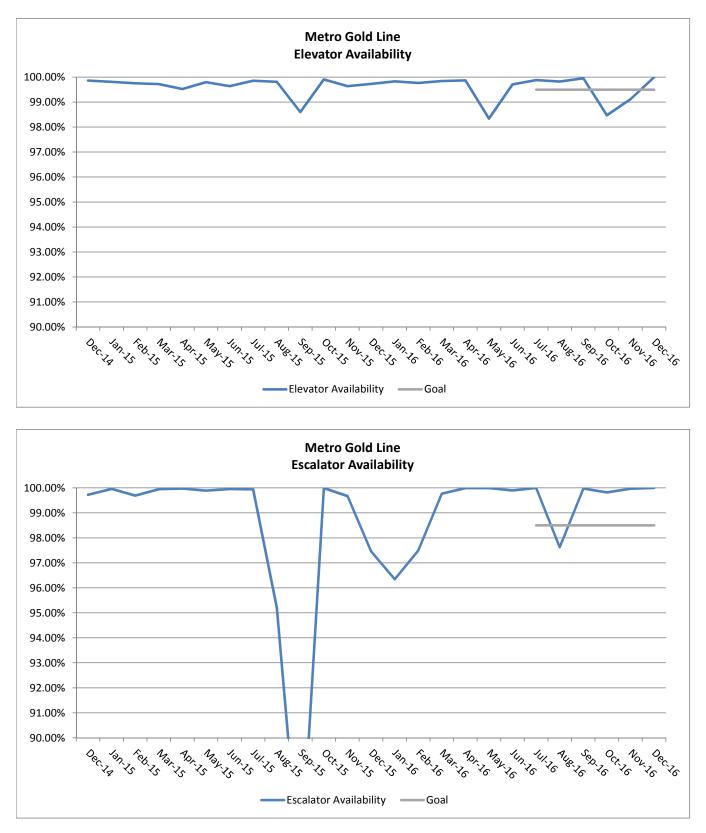


LOST TRIPS



LOST HOURS





VERTICAL TRANSPORTATION AVAILABILITY

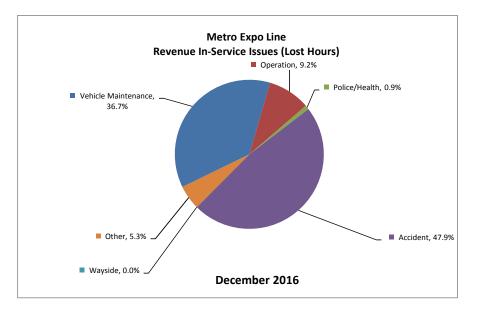
EXPO LINE

Out of a total of 19,323 hours operated, there were approximately 95 total hours of service delays.

	Revenue		
December 2016 Service Hours *	Hours	Per Cent	
Revenue Hours without Delays	19,228	99.5%	
Cancelled + Delayed Hours	95	0.5%	
Total Revenue Hours	19,323	100.0%	

Summary of the major contributors:	Count	Hours	Per Cent
Operations	4	8.8	9.2%
Accidents	1	45.6	47.9%
Vehicle Maintenance	19	34.9	36.7%
Wayside	0	0.0	0.0%
Police & Health	5	0.9	0.9%
Other	6	5.0	5.3%
Total	35	95.1	100.0%

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



December 2016 Expo Line major delay contributors were as follows:

Operations Incidents:

12/7/2016 3:54:00 PM - Incident# 2809734 (0 lost trips, 20 lost minutes) Service delay due to a stalled train on platform 2 at 7th and Metro.

12/10/2016 10:07:00 PM - Incident# 2810923 (0 lost trips, 11 lost minutes) T-530 violated Rule 4076 Reporting Delays.

12/14/2016 10:56:00 PM - Incident# 2813039 (0 lost trips, 22 lost minutes) Delays due to 2812559

12/23/2016 7:29:00 PM - Incident# 2815883 (4 lost trips, 474 lost minutes)

Train delay Train 620 cars 1044-1045 Train 609 cars 1036-1019

Accidents:

12/21/2016 5:26:00 PM - Incident# 2815126 (23 lost trips, 2,733 lost minutes) Train-620

T-265 Cars (1040B)-1030 Southbound, Track #4 Flower/ 23rd Street Auto vs. Train

Vehicle Maintenance Incidents:

12/1/2016 5:50:00 AM - Incident# 2806766 (1 lost trip, 105 lost minutes) Propulsion / Dynamic Brakes (1043B)-1041 Train 612 T-214 Bundy, Northbound, Track 3

12/1/2016 6:00:00 PM - Incident# 2807150 (0 lost trips, 6 lost minutes)

Door malfunction Train 607 Track #3 NB Westwood/ Rancho Park Station T-525 (152A)-104

12/2/2016 7:08:00 AM - Incident# 2807338 (0 lost trips, 15 lost minutes)

Reports door problem. Train #605 T-358 1040-1050 Pico Station, Southbound, Track 2

12/10/2016 3:44:00 PM - Incident# 2810871 (0 lost trips, 5 lost minutes)

Car 142B lost movement. T-529 Train 602 Cars (142B)-102-147 17th St Interlocking, Track 3, northbound.

12/11/2016 1:08:00 AM - Incident# 2810935 (1 lost trip, 141 lost minutes)

Car 246A lost movement, multiple faults. T-507 Train 603 Cars (246A)-238-250 La Cienega Station, Track 4, southbound

12/14/2016 4:46:00 AM - Incident# 2812081 (1 lost trip, 131 lost minutes)

Propulsion / Dynamic Brakes (246)-238 Train 612 T-241 17th Street, Northbound, Track 3

12/14/2016 6:47:00 PM - Incident# 2812454 (4 lost trips, 491 lost minutes)

Operator reports no movement and no indications. Cars 229, 244, 230 Train 204 T-524 Portal TRK 2, southbound

12/15/2016 1:13:00 AM - Incident# 2812552 (1 lost trip, 119 lost minutes)

Train operator reports of no movement. Train 625 T-526 Cars (246A), 238 Track 4, Farmdale Station, Southbound

12/15/2016 4:51:00 PM - Incident# 2812910 (2 lost trips, 251 lost minutes)

Operator reports propulsion failure with a speed restriction on Car 155A. Car 143, 128, 155A Train 601 T-162 La Cienega TRK 4, southbound

12/15/2016 5:58:00 PM - Incident# 2812917 (3 lost trips, 358 lost minutes)

Operator reports she cannot see out of the window of 109A. Cars 162, 109 Train 604 T-514 Bundy TRK 4, southbound.

12/18/2016 1:33:00 AM - Incident# 2813724 (0 lost trips, 10 lost minutes)

Reports of friction brake fault Train # 603 T-521 (104A)-144-131 Santa Monica Staion, Track 3, Northbound

12/18/2016 4:40:00 AM - Incident# 2813726 (1 lost trip, 148 lost minutes)

Car 249 Propulsion Dynamic Brakes fault with speed restriction, at Westwood operator reports doors are not opening. Train 604 T-089 Track 3 Northbound at Bundy Station Train 604 T-89

Consist 236-249-229

12/18/2016 5:17:00 AM - Incident# 2813731 (0 lost trips, 7 lost minutes)

No Fault/ No movement Train 601 T-374 (1016A)-1048-1018 Track 3 Northbound at Lincoln Blvd (South of 17th)

12/19/2016 5:42:00 AM - Incident# 2813941 (0 lost trips, 5 lost minutes)

Train 601 T-136 Cars (104)-152-133 Santa Monica station tk4 N/B

12/21/2016 10:59:00 PM - Incident# 2815168 (0 lost trips, 10 lost minutes)

Train 625 T-501 Cars (102)121-162 Santa Monica tk 4

12/27/2016 9:24:00 AM - Incident# 2816667 (0 lost trips, 12 lost minutes)

Door Problem Train #608. T-405. LRV- (166A & B), 102, 155. Santa Monica Station, Track #3, Northbound.

12/27/2016 2:26:00 PM - Incident# 2816734 (0 lost trips, 30 lost minutes)

Prop/Fault with speed restriction. Train #601. T-510. LRV- (166A),102, 151. Palms Station, Track #4, Southbound.

12/30/2016 7:22:00 AM - Incident# 2817711 (1 lost trip, 132 lost minutes)

Friction brake fault with recurring no movement. Train 603 T-136 (1023-1027-1050) SB, Western Station, Track 4

12/30/2016 4:39:00 PM - Incident# 2817936 (1 lost trip, 119 lost minutes)

Train operator reports flats on train. Train 622, T-381 (1048A)-1039 Track 4, 17th Street, South

Police & Health Incidents:

12/1/2016 10:32:00 PM - Incident# 2807196 (0 lost trips, 6 lost minutes) Passenger brandishing knife Train 602 Track #3 Santa Monica Station T-525 (236)-238

12/15/2016 1:25:00 PM - Incident# 2812825 (0 lost trips, 24 lost minutes) Stabbing Train 601 departing Santa Monica Station

12/23/2016 9:55:00 AM - Incident# 2815708 (0 lost trips, 5 lost minutes)

Operator reports of a verbal argument between two passengers

Train 602 T-472 (1020)1035-1017 Westwood station, Trk. 3, northbound

12/26/2016 6:19:00 PM - Incident# 2816377 (0 lost trips, 9 lost minutes)

Train Delay Train #608, T-517 (1038B)-1024-1014 SB, Crenshaw Station, Track #4

12/30/2016 11:55:00 AM - Incident# 2817842 (0 lost trips, 7 lost minutes)

Train 608 reports that a sick patron is on board his middle car 104

Other Incidents:

12/3/2016 4:53:00 AM - Incident# 2807849 (0 lost trips, 17 lost minutes)

Expo yard limits: 4 out late trains due to all cab doors being opened in multiple cars/trains. Delays were not initially as bad but were made worse by single track operations at yard limits.

12/13/2016 5:57:00 AM - Incident# 2811644 (0 lost trips, 7 lost minutes)

Operator failed to report reason for 7 minute outlate. Scheduled pull-out 0549, Actual Pull out 0556

12/16/2016 5:56:00 AM - Incident# 2813085 (0 lost trips, 19 lost minutes)

Rolled Out Late T-230 missed out Train #604 Expo Yard.

12/16/2016 6:13:00 AM - Incident# 2813097 (1 lost trip, 135 lost minutes)

Out Late, train #617 Yard Controller R-1

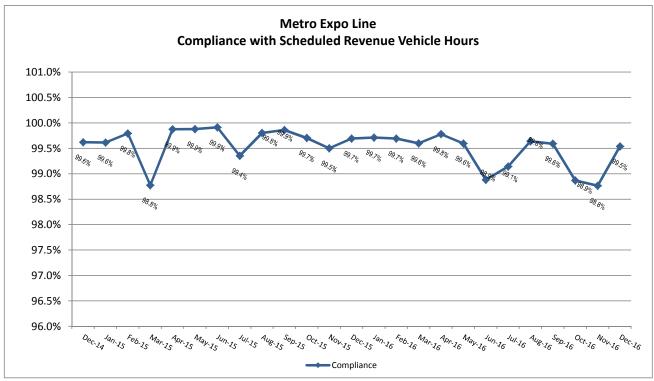
12/16/2016 7:02:00 AM - Incident# 2813170 (0 lost trips, 6 lost minutes)

Out Late, Train #609 Cars #(131-144-104) Yarc Controller R-110 Expo Yard

12/30/2016 8:22:00 AM - Incident# 2817650 (1 lost trip, 119 lost minutes)

4th Street Interlocking: Loss of SCADA: "INVALID" indication only; loss of "AUTO" and "CENTRAL" interlocking functions. Controller unable to clear signals or set switches.

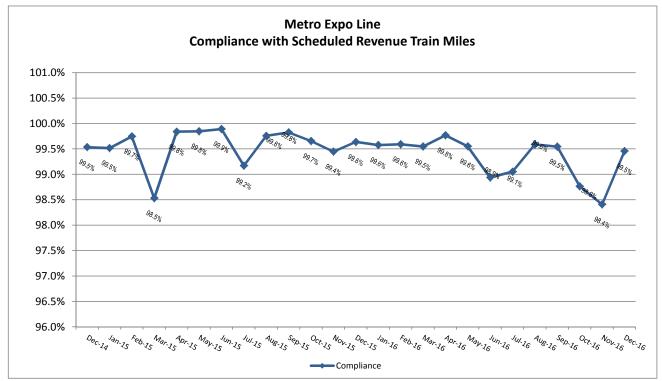
MEASURES OF THE OVERALL SERVICE IMPACT OF RAIL INCIDENTS



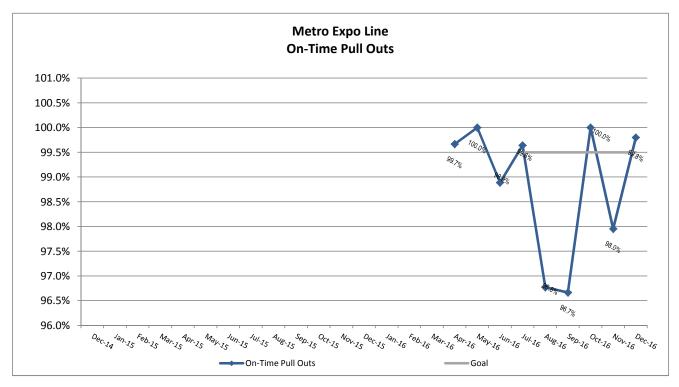
COMPLIANCE WITH SCHEDULED VEHICLE HOURS CHART

COMPLIANCE WITH SCHEDULED TRAIN MILES CHART

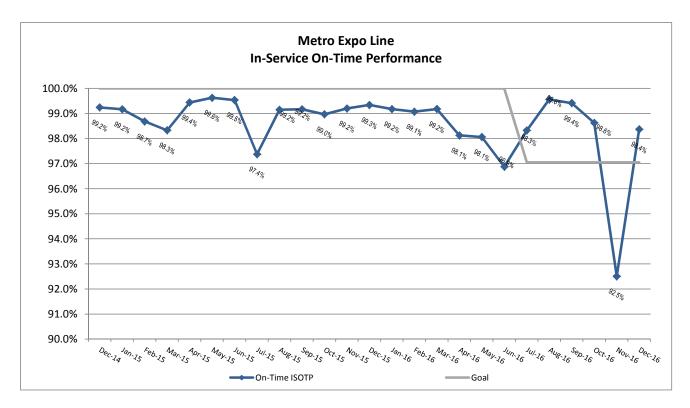
39



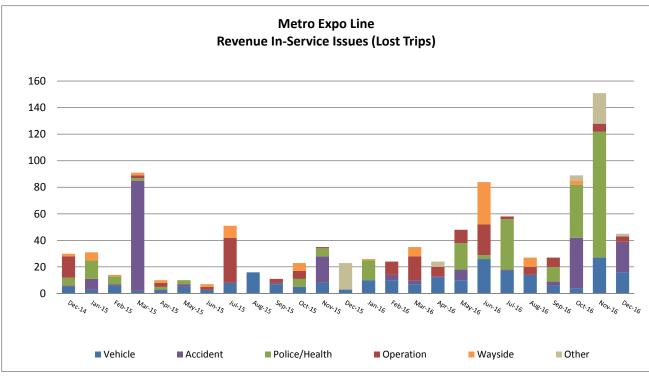




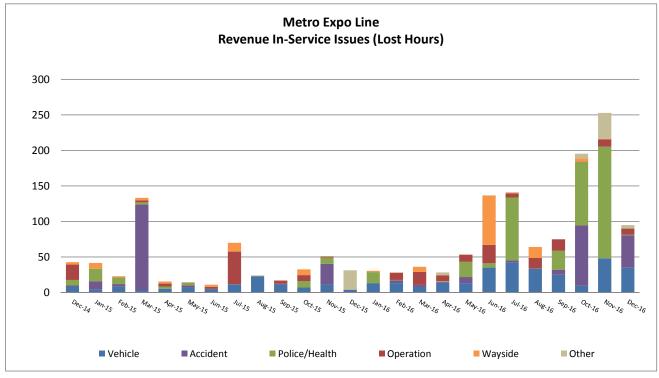
IN-SERVICE ON-TIME PERFORMANCE CHART

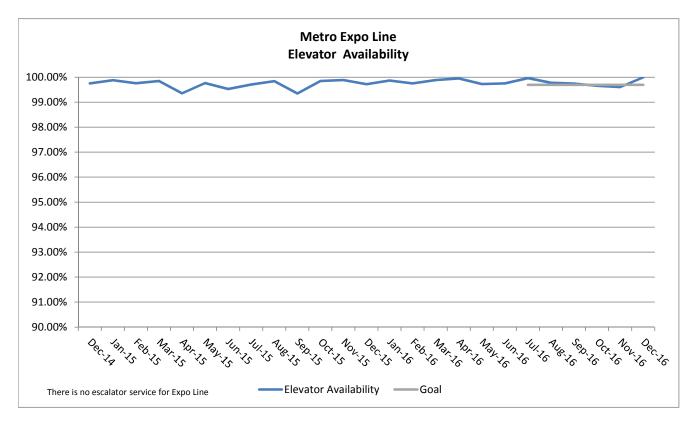






LOST HOURS





VERTICAL TRANSPORTATION AVAILABILITY