



Rail Fleet Services Monthly Report June 2016

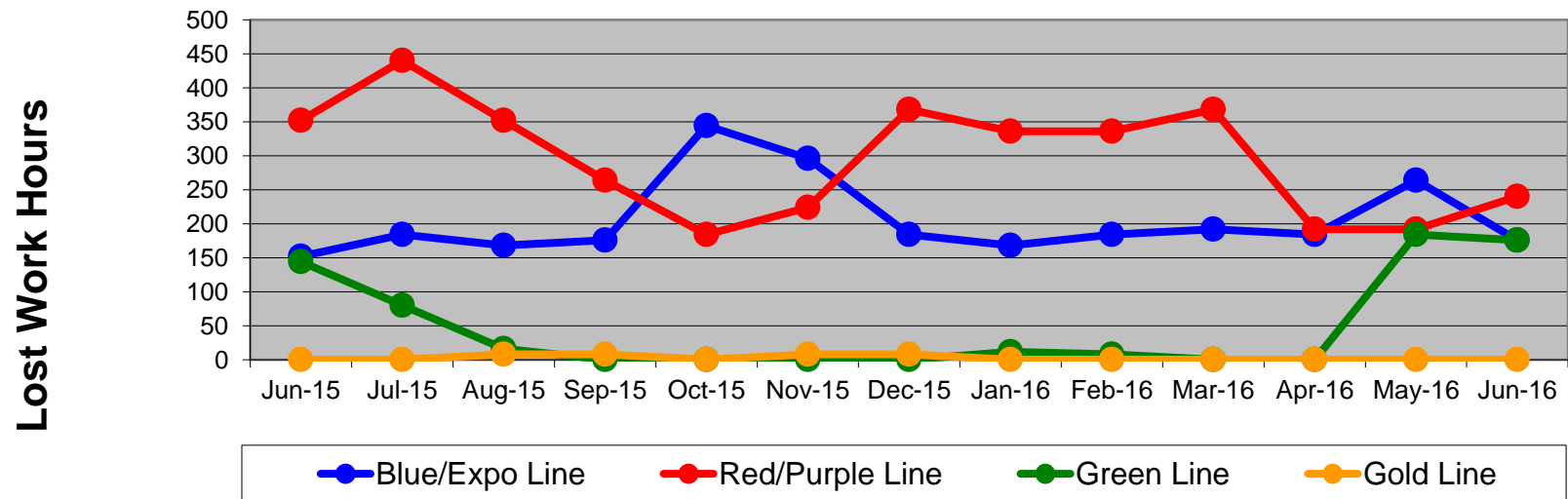
Table of Contents

•	Safety & Cleanliness		
	- Industrial Injuries	Page	3
	- Rail Vehicle Accidents & Major Incidents	Page	4
	- Car Cleanliness	Page	5
•	Customer Service		
	- Service Delivery – AM/PM Pull-Outs	Page	6
	- Vehicle Utilization – Red Line	Page	7
	- Vehicle Utilization – Blue Line & Expo Line	Page	8
	- Vehicle Utilization – Green Line & Gold Line	Page	9
	- All Train Delay Incidents	Page	10
	- Mean Miles Between Failures (Major)	Page	11
	- Mileage Between Data Range (by month)	Page	12
•	Business Processes		
	- Top Incident Categories	Page	13
	- Major Incidents	Page	14
	- Preventive Maintenance Compliance	Page	15
	- RFS Leader Wrench Turning	Page	16
•	Finance		
	- Vandalism & Graffiti Costs	Page	17
	- Vandalism & Graffiti Pictures	Page	18
	- Labor & Material Costs	Page	19
	- Cost per mile	Page	20
	- Absence vs. Overtime	Page	21
•	Growth		
	- RFS Instruction Department Activities	Page	22-23

Industrial Injuries – Lost Work Hours June 2015-2016

	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	13-Month Period
Blue/Expo Line	152	184	168	176	344	296	184	168	184	192	184	264	176	2,672
Red/Purple Line	352	440	352	264	184	224	368	336	336	368	192	192	240	3,848
Green Line	144	80	16	0	0	0	0	12	8	0	0	184	176	620
Gold Line	0	0	8	8	0	8	8	0	0	0	0	0	0	32
Totals	648	704	544	448	528	528	560	516	528	560	376	640	592	7,172

Industrial Injuries (lost work hours)



Rail Vehicle Accidents & Major Incidents

June 2015-2016

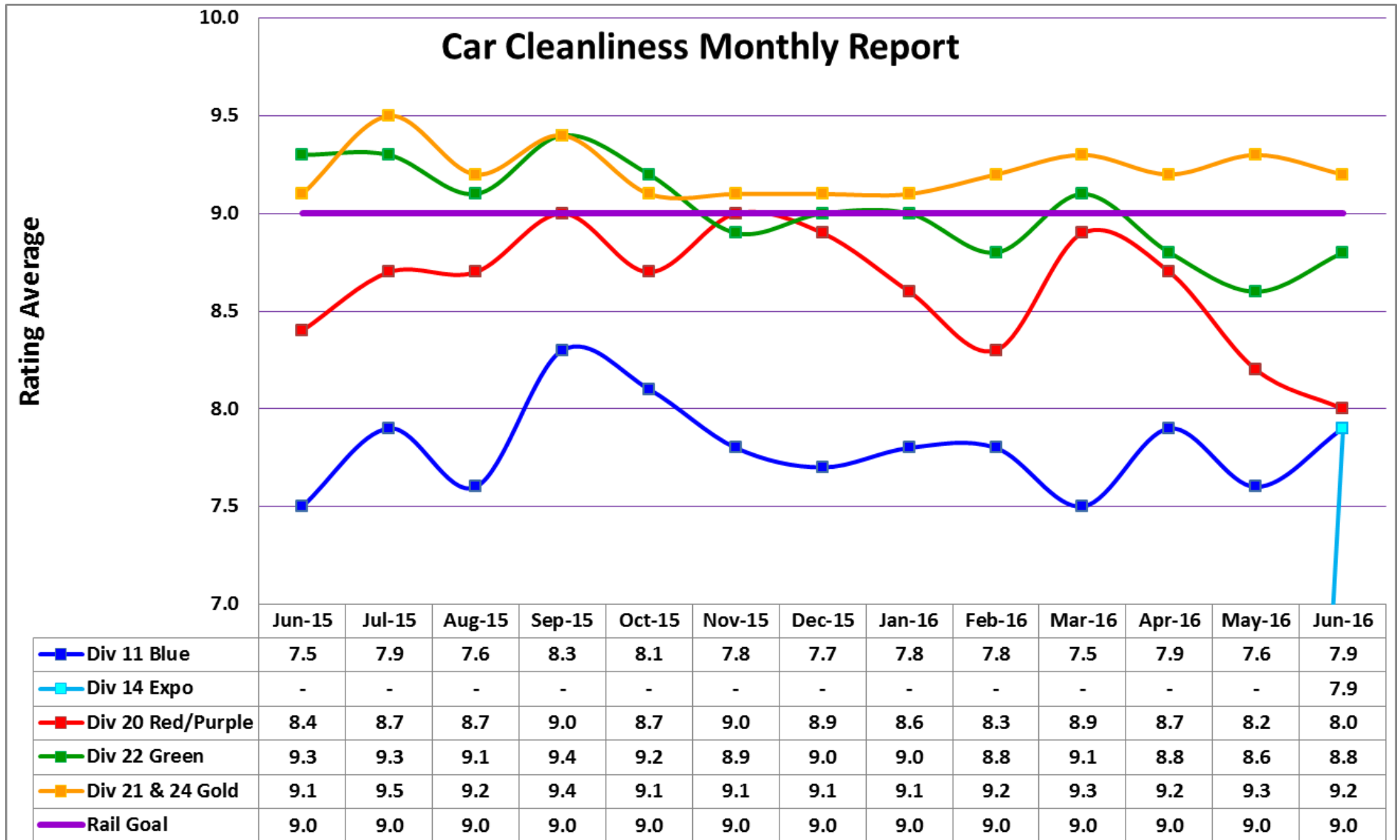
Repair Costs	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	13-Month Period
Blue/Expo Line	\$4,811	\$5,716	\$1,971	\$2,838	\$40,969	\$65,454	\$17,160	\$4,570	\$7,379	\$2,037	\$1,232	\$513	\$0	\$154,650
Red/Purple Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,284	\$0	\$1,932	\$3,216
Green Line	\$0	\$0	\$5,333	\$0	\$1,205	\$0	\$23	\$0	\$0	\$0	\$0	\$0	\$0	\$6,561
Gold Line	\$1,494	\$8,204	\$2,611	\$0	\$1,074	\$1,547	\$1,547	\$0	\$53	\$1,487	\$4,646	\$0	\$19,451	\$42,114
Totals	\$6,305	\$13,920	\$9,915	\$2,838	\$43,248	\$67,001	\$18,730	\$4,570	\$7,432	\$3,524	\$7,162	\$513	\$21,383	\$206,541

Rail Vehicle Accident Costs - June 2016				
Date	Incident #	Problem Code	Incident Description	Repair Cost
Metro Gold Line				
6/8/16	2739391	Train vs. Vehicle	A 10-73 was reported at Glenarm grade crossing, Track 2.	\$ 19,451
6/20/16	2743556	Train vs. Vehicle	A 10-73 was reported at Avenue 53, Track 2 SB.	\$ -
Metro Gold Line Total				\$ 19,451
Metro Red Line				
6/11/16	2740655	Train vs. Pedestrian	A 10-72 was reported on AL track, at Universal City Station.	\$ 1,932
Metro Red Line Total				\$ 1,932
Grand Total				\$ 21,383
10-71 = Train vs. Object/ 10-72 = Train vs. Pedestrian/ 10-73 = Train vs. Vehicle/ 10-74 = Train vs. MTA Vehicle/ 10-75 = Derailment				

Note: Repair costs are only the expenses captured during the time period of the report. Actual costs may be significantly higher, if repairs are spread out over several months.

Rail Vehicle – Car Cleanliness

June 2015-2016



Service Delivery June 2016

June 2016 - Service Delivery

Blue Line Fleet Size: 69

	<u>Average Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	60	59	98%
Weekend:	26	43	165%

Monthly Mileage: 439,089

Expo Line Fleet Size: 39

	<u>Average Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	24	27	113%
Weekend:	24	29	121%

Monthly Mileage: 203,209

Red/Purple Line Fleet Size: 104

	<u>Average Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	74	80	108%
Weekend:	54	70	130%

Monthly Mileage: 600,948

Green Line Fleet Size: 29

	<u>Average Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	22	22	100%
Weekend:	14	17	121%

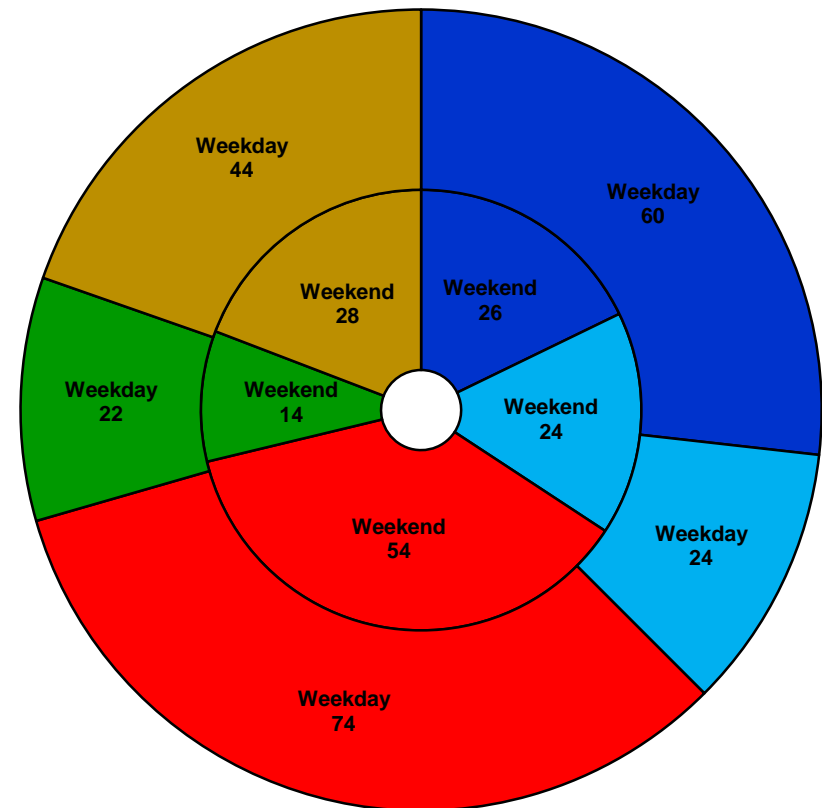
Monthly Mileage: 228,366

Gold Line Fleet Size: 60

	<u>Average Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday (Div 21):	10	10	100%
Weekday (Div 24):	34	38	112%
Weekend (Div 24):	28	37	132%

Monthly Mileage: 479,130*

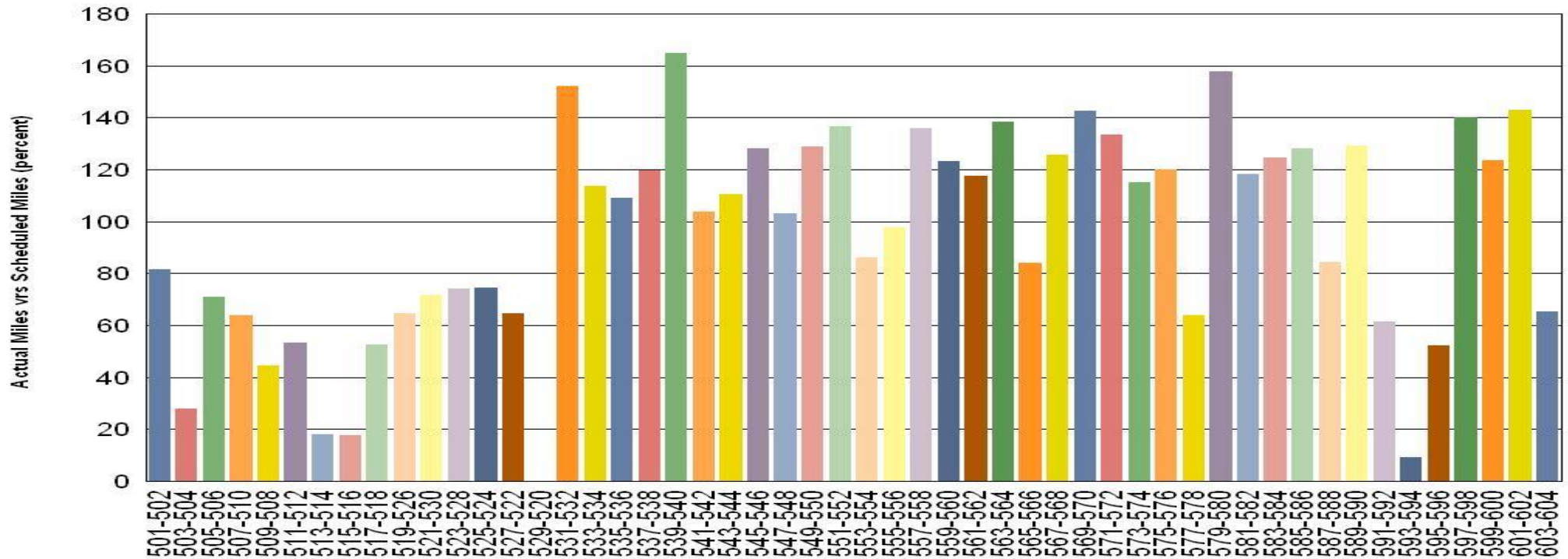
* Gold Line monthly mileage includes Division 21 and 24.



■ Blue Line ■ Expo Line ■ Red/Purple Line ■ Green Line ■ Gold Line

Vehicle Utilization June 2016

Metro Red/Purple Line (104 Cars)



Red/Purple Line:

The following cars were out of service due to:

Car # 503-504 – ATP, Flashing cab signal

Car # 513-514 – Propulsion Fault

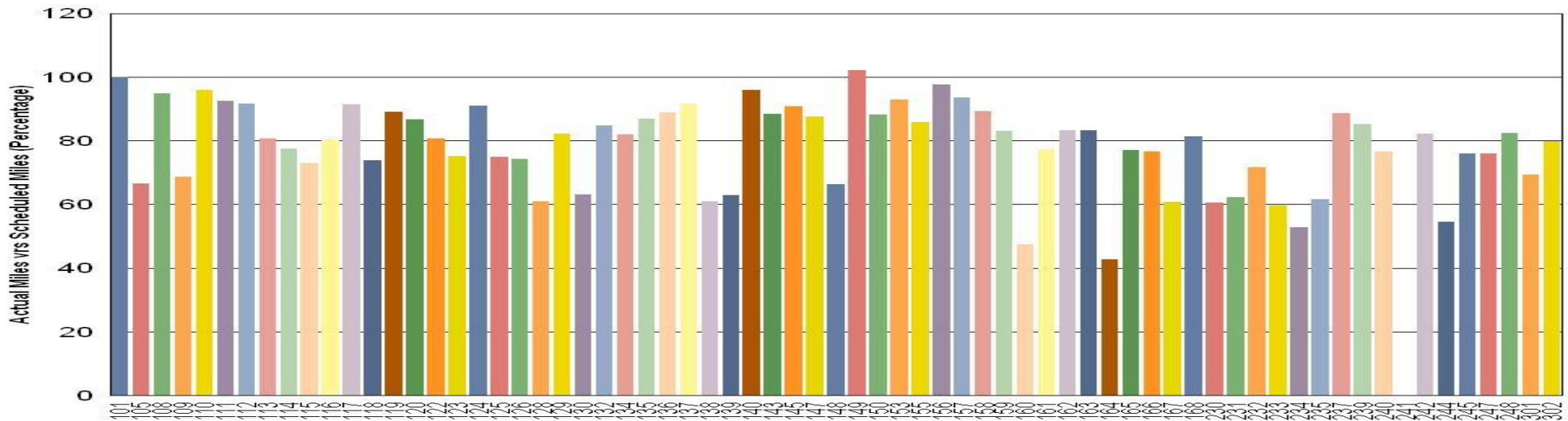
Car # 515-516 – Floor Campaign

Car # 529-520 – Pending for parts (Blower Motors and Windshield)

Car # 593-594 – Component Overhaul campaign

Vehicle Utilization June 2016

Metro Blue Line (69 Cars)



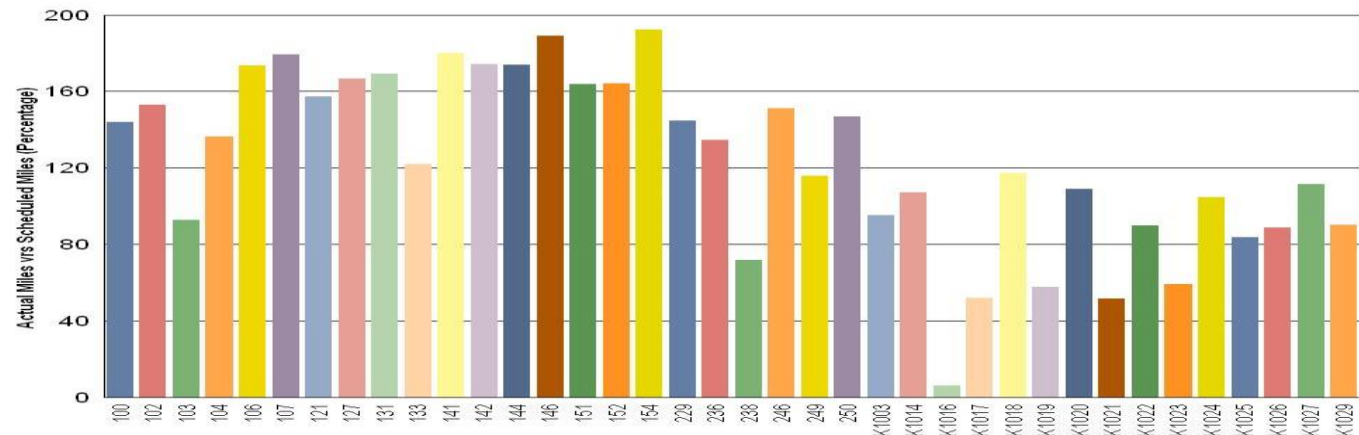
Blue/Expo Line: The following cars were out of service due to:

Car # 241 Truck work, Overhaul and Parts Issues

Metro Expo Line (39 Cars)

Expo Line: The following car was out of service due to:

Car # K1016 HVAC issue that took 2 weeks to resolve troubleshooting and parts.



Note: Percentage includes an average 4% mileage deduction for yard mileage and vehicle testing.

Vehicle Utilization

June 2016

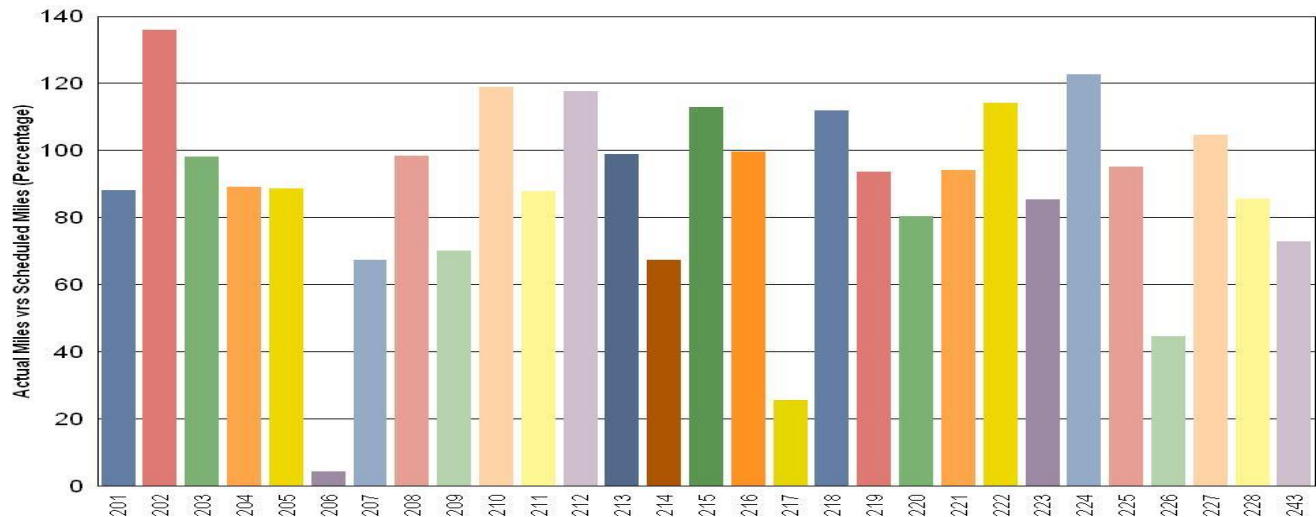
Green Line:

The following cars were out of service due to:

Car # 206 EMI level 2 (Engineering hold)

Car # 217 Graffiti Abatement

Metro Green Line (29 Cars)



Metro Gold Line (60 Cars)

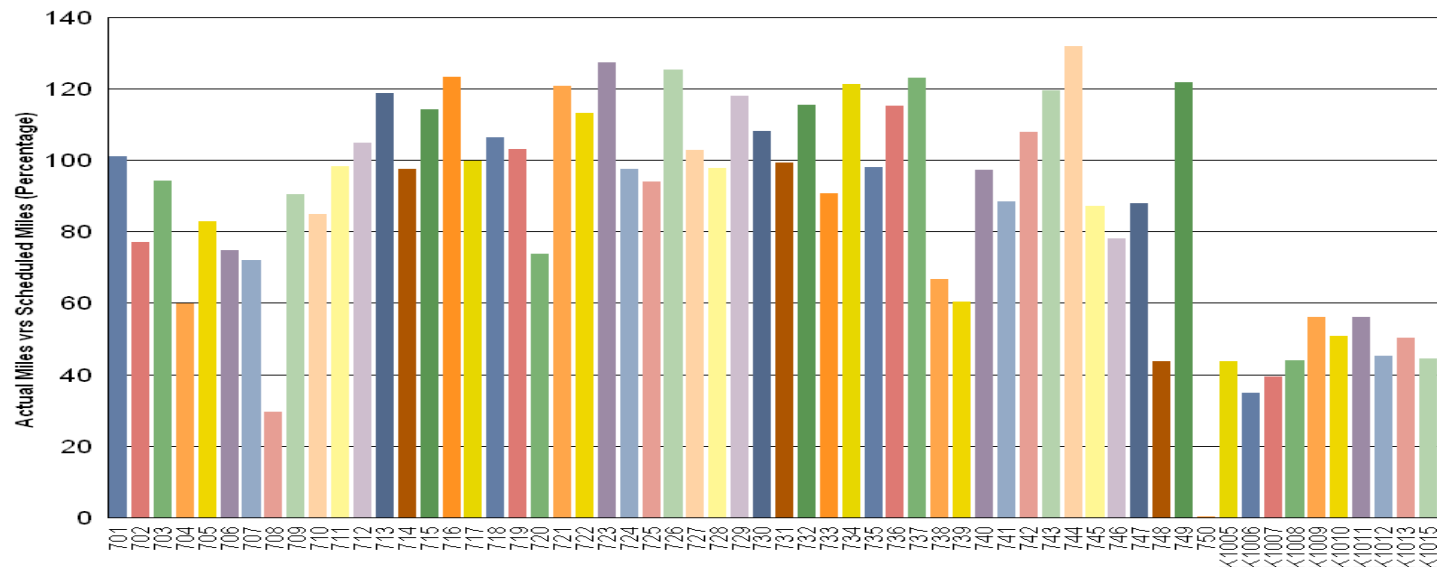
Gold Line:

The following cars were out of service due to:

Car # 708 120K Miles Inspection and Wheel Truing

Car # 750 Auxiliary Inverter and Propulsion Inverter Repair

Car # K1006 & K1007 KinkiSharyo Engineering Updates

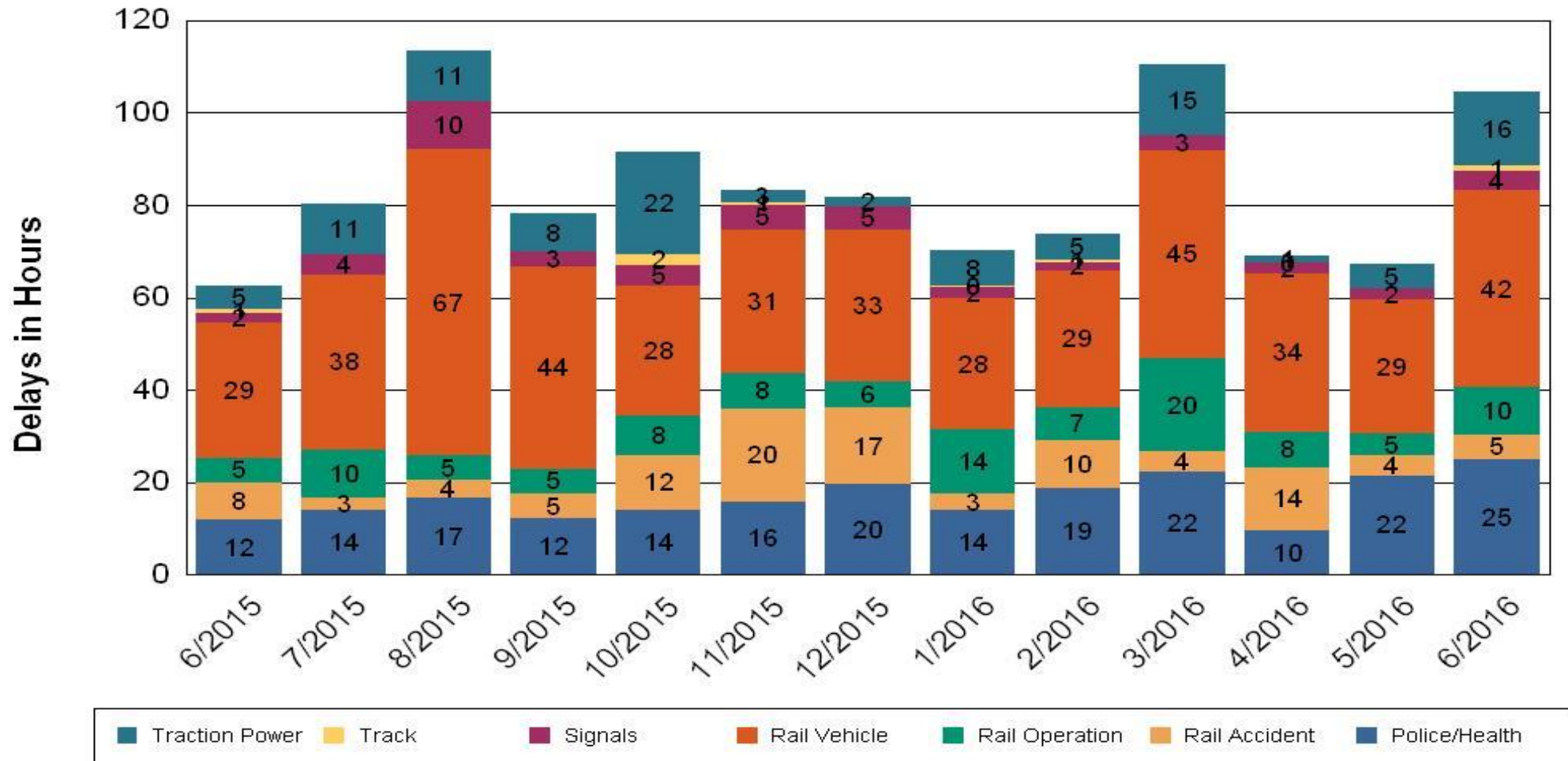


•Percentage includes an average 4% mileage deduction for yard mileage and vehicle testing.

All Train Delays (Hours) June 2015-2016

All Train Delays

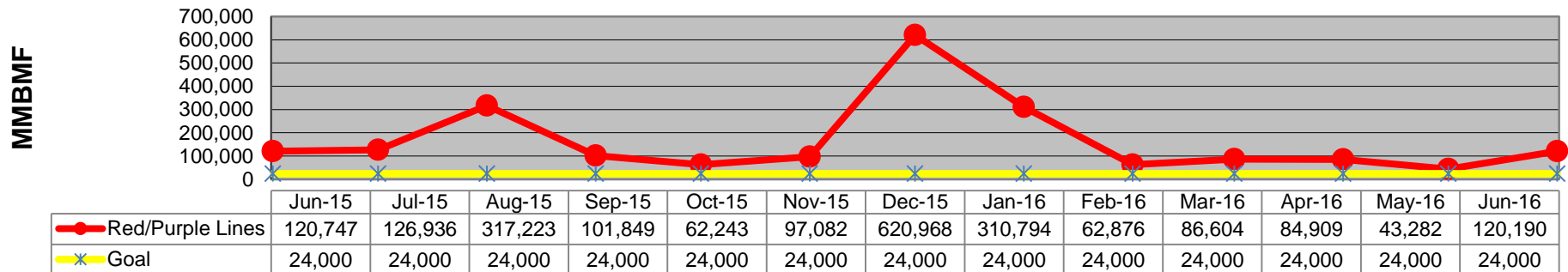
Totals Include the delay to all trains involved (not just the primary incident)



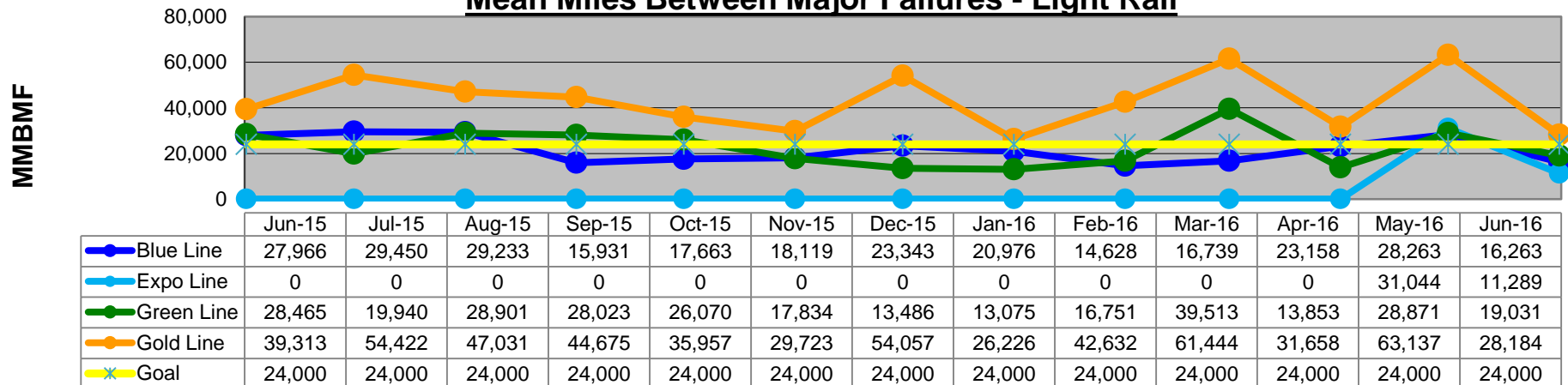
Mean Miles Between Failures (Major)

June 2015-2016

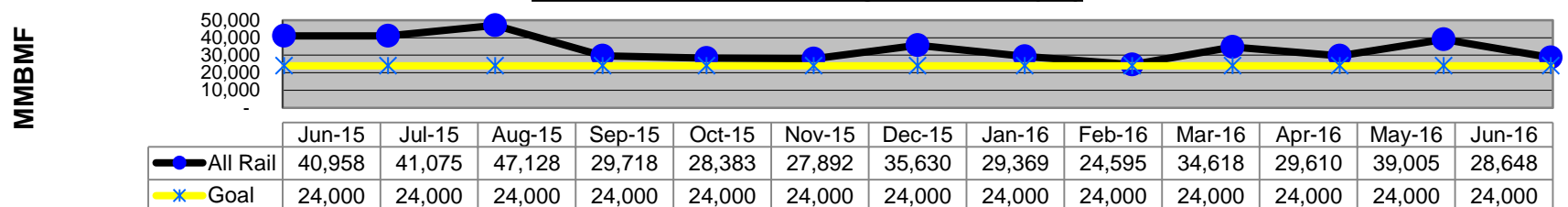
Mean Miles Between Major Failures - Heavy Rail



Mean Miles Between Major Failures - Light Rail

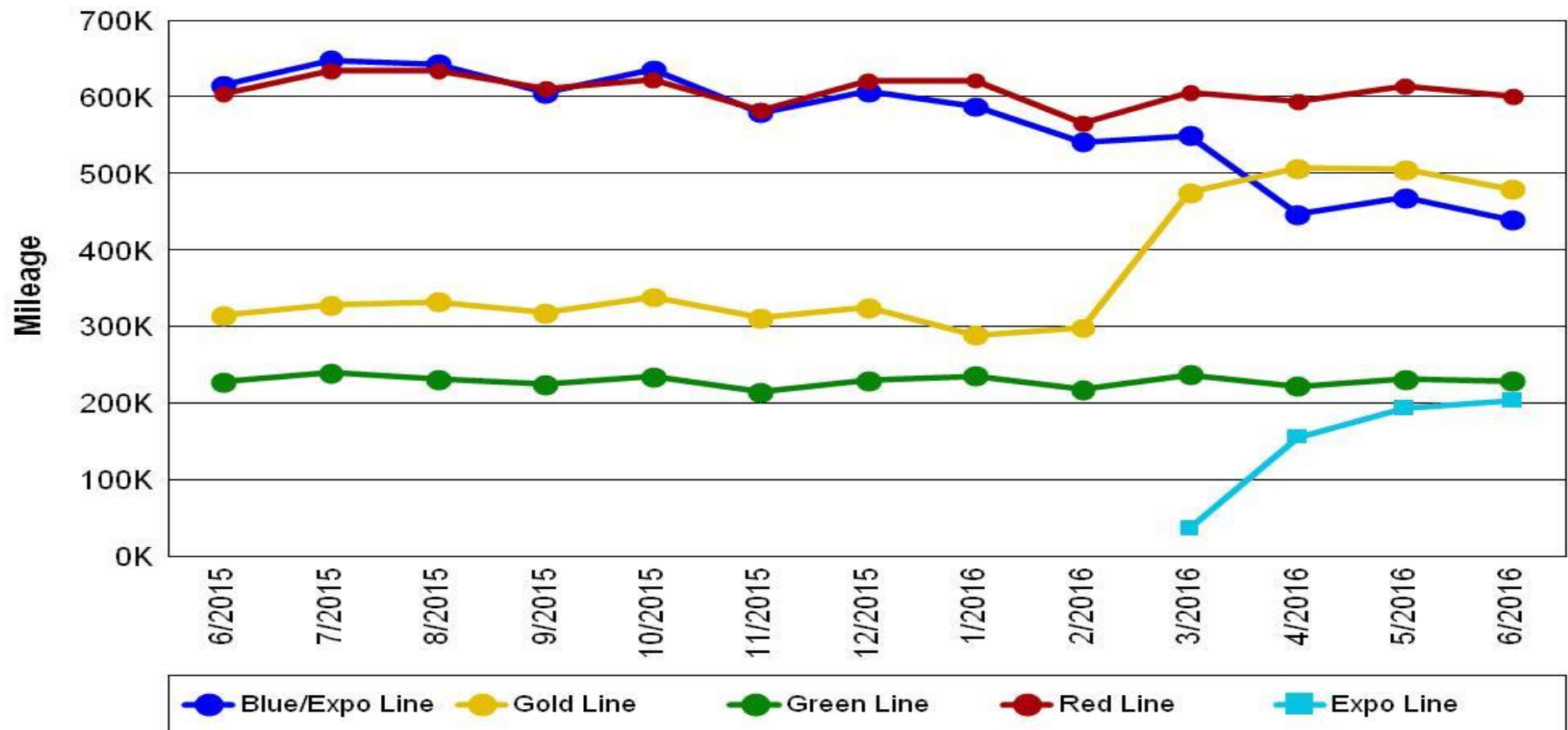


Mean Miles Between Major Failures (all)



Mileage Between Data Range (by month) June 2015-2016

Rail Division Monthly Mileage



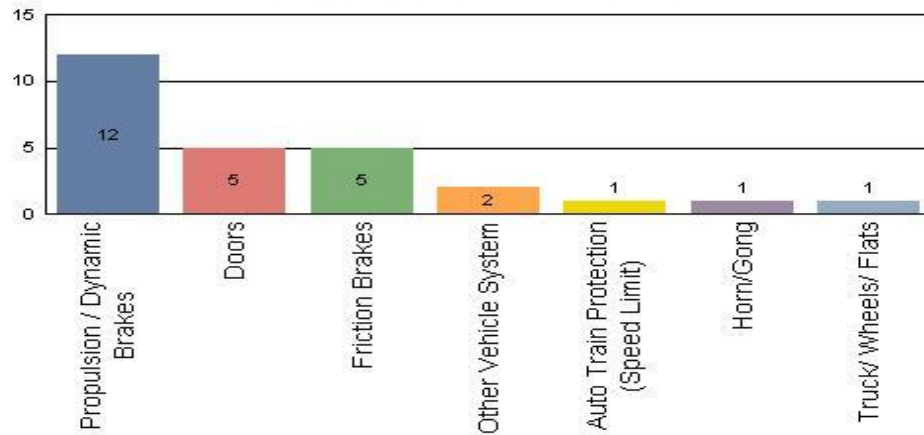
Notes:

- ❖ Gold Line increase in mileage is due to the open of the Foothill extension, which includes stations further apart and faster average running speeds.
- ❖ With the opening of Division 14 in Santa Monica, the Expo Line mileage is now being reported separately from the Blue Line.

Top Incident Categories June 2016

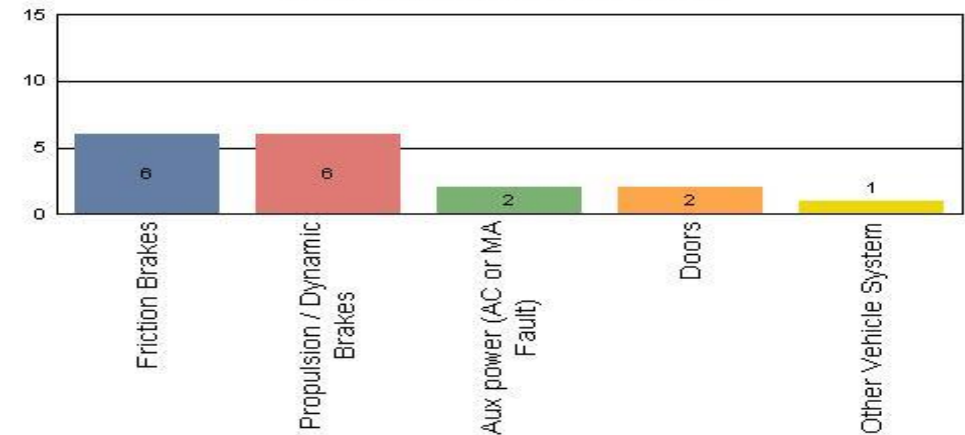
Metro Blue Line (Div 11)

Top Incident Categories



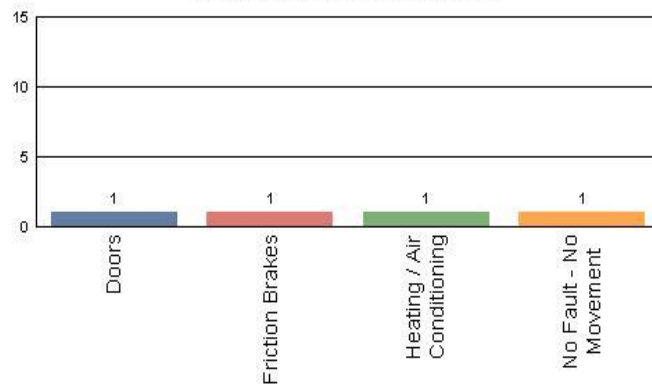
Metro Expo Line (Div 14)

Top Incident Categories



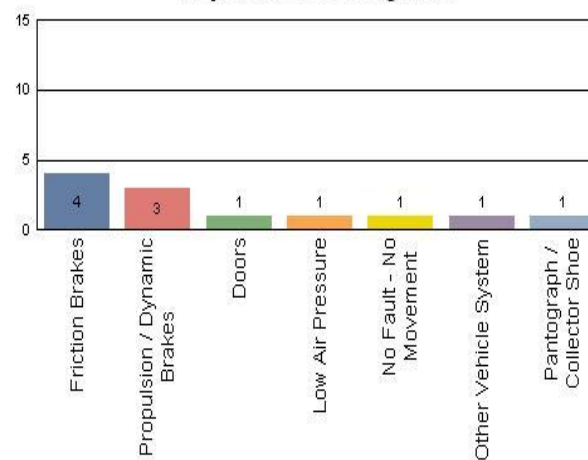
Metro Red/Purple Line (Div 20)

Top Incident Categories



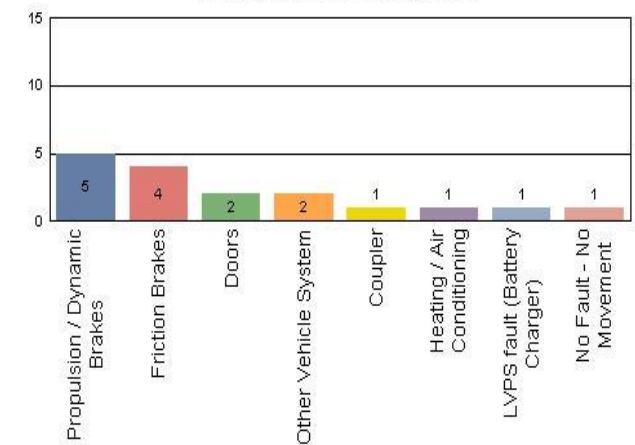
Metro Green Line (Div 22)

Top Incident Categories



Metro Gold Line (Div 21 & Div 24)

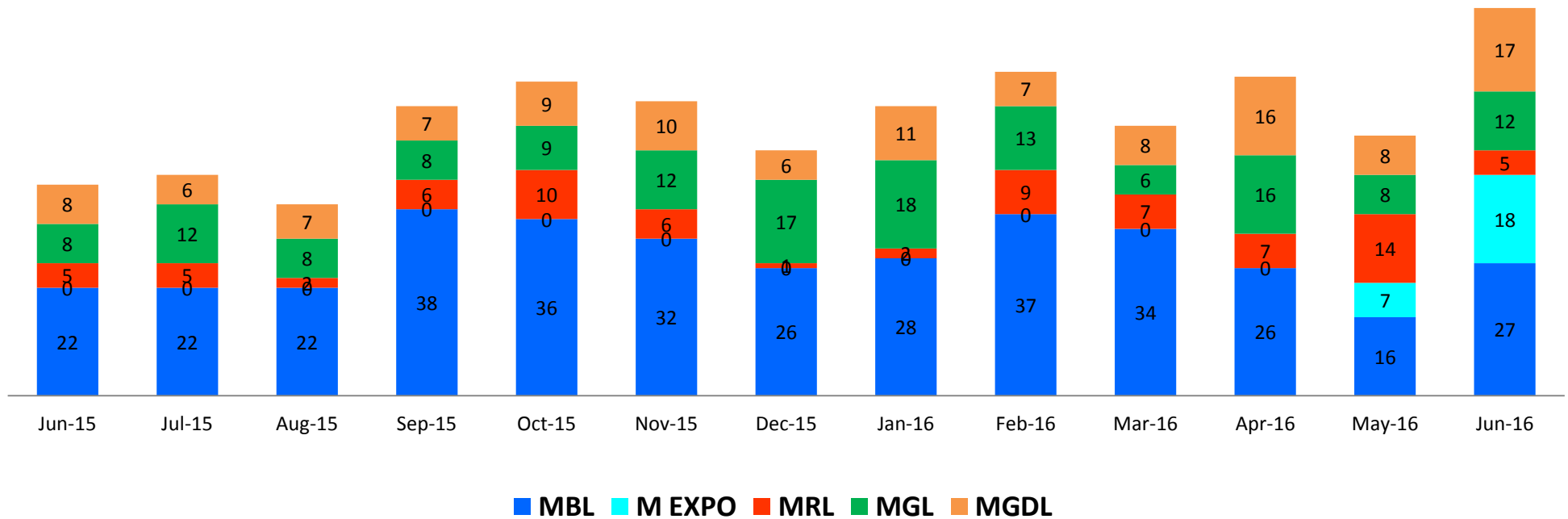
Top Incident Categories



Major Incidents

June 2015-2016

Numbers of Major System Failures (by Line)



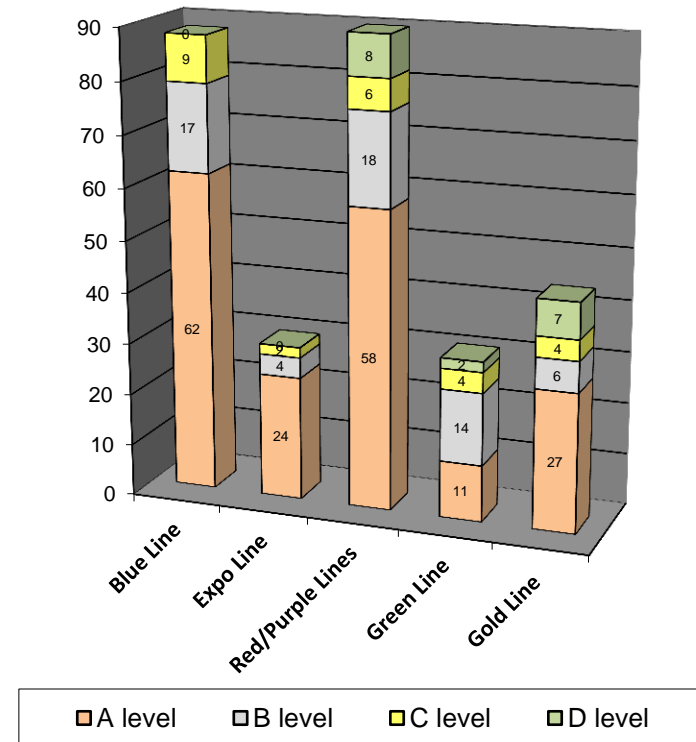
Preventive Maintenance Compliance

June 2015-2016

PM Compliance	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
Blue Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Expo Line	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
Red/Purple Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Green Line	100%	100%	100%	100%	100%	93%	97%	97%	100%	100%	100%	93%	100%
Gold Line	96%	100%	100%	100%	94%	100%	100%	100%	100%	100%	100%	100%	100%

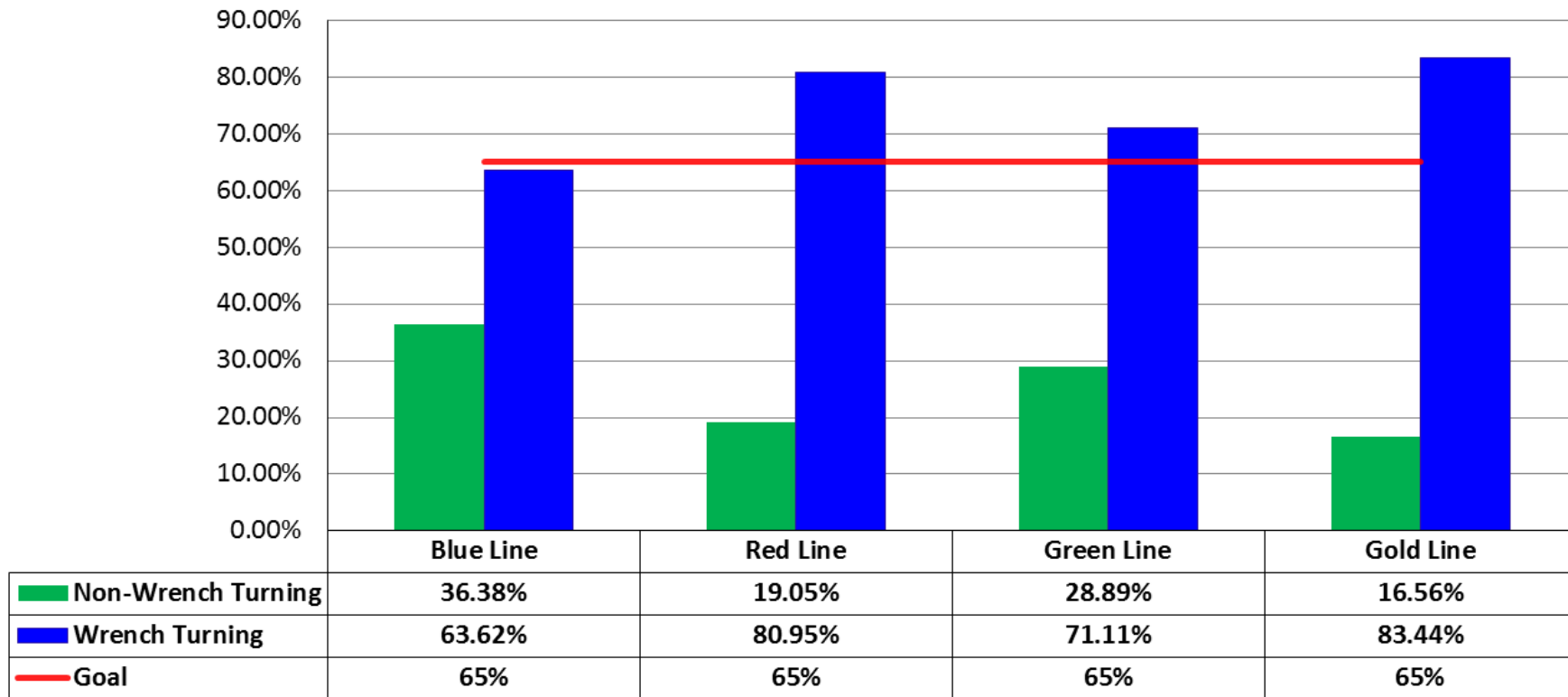
Number of Preventive Maintenance Inspections - June 2016					
Line	A level	B level	C level	D level	Totals
Blue Line	62	17	9	0	88
Expo Line	24	4	2	0	30
Red/Purple Lines	58	18	6	8	90
Green Line	11	14	4	2	31
Gold Line	27	6	4	7	44
Totals:	182	59	25	17	283

Explanation of PM Inspection levels		Miles			
Line	Type	A level	B level	C level	D level
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000
Red/Purple Lines	A650	7,500	22,500	45,000	90,000
Green Line	P2000	7,500	22,500	45,000	90,000
Gold Line	P2550	10,000	30,000	60,000	120,000
Gold/Expo Lines	P3010	10,000	30,000	60,000	120,000



RFS Leader Wrench Turning June 2016

RFS - Leader Wrench Turning June 2016



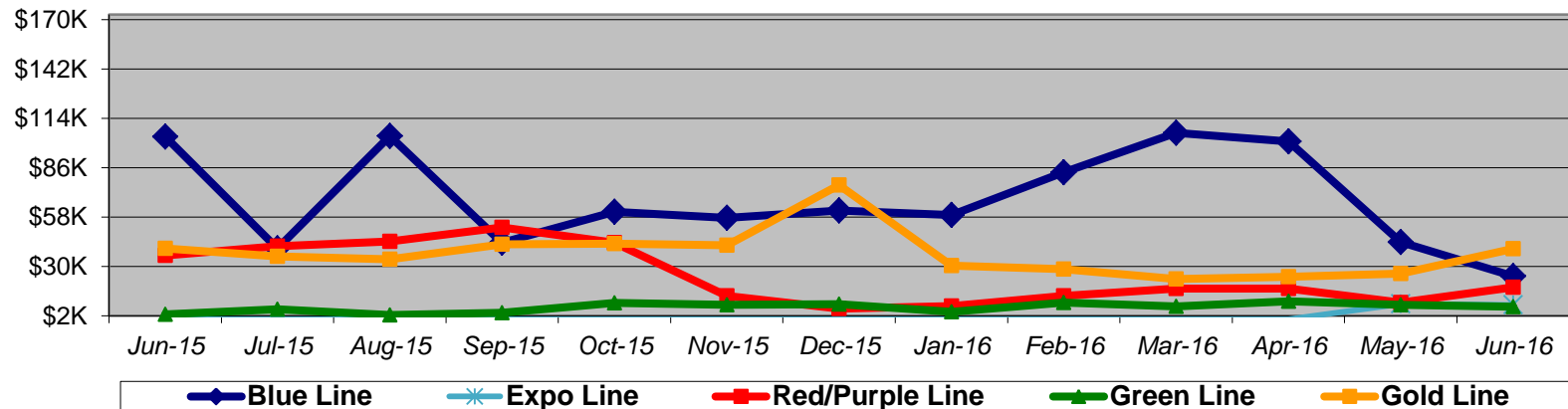
Notes: Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader

Vandalism & Graffiti Report

June 2015-2016

Graffiti Costs

	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	13-Month Period
Blue Line	\$104K	\$40K	\$104K	\$43K	\$61K	\$58K	\$62K	\$59K	\$83K	\$106K	\$101K	\$44K	\$24K	\$889K
Expo Line	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$9K	\$8K	\$17K
Red/Purple Line	\$36K	\$41K	\$44K	\$52K	\$43K	\$13K	\$6K	\$7K	\$13K	\$17K	\$17K	\$9K	\$18K	\$319K
Green Line	\$3K	\$6K	\$2K	\$4K	\$9K	\$8K	\$9K	\$4K	\$9K	\$7K	\$10K	\$8K	\$7K	\$87K
Gold Line	\$40K	\$36K	\$34K	\$42K	\$43K	\$42K	\$76K	\$30K	\$28K	\$23K	\$24K	\$26K	\$40K	\$485K
Totals:	\$183K	\$123K	\$185K	\$142K	\$156K	\$121K	\$152K	\$101K	\$134K	\$153K	\$153K	\$96K	\$98K	\$1,796K



June 2016 Vandalism & Graffiti - All Rail

	Qty	Labor	Materials	Totals
Windows Replaced	68	\$ 10,962	\$ 13,662	\$ 24,624
Vandal Shields Replaced	667	\$ 17,614	\$ 8,516	\$ 26,130
Seats Cleaned	387	\$ 2,816	\$ 168	\$ 2,984
Seats Inserts Replaced	206	\$ 6,488	\$ 6,809	\$ 13,297
Graffiti Removal - Other	1,169	\$ 22,056	\$ 4,675	\$ 26,731
Repainting Panels	130	\$ 4,095	\$ -	\$ 4,095
Totals	2,627	\$ 64,031	\$ 33,830	\$ 97,861

Vandalism & Graffiti Pictures

June 2016

Blue Line



Etched Window

Gold Line

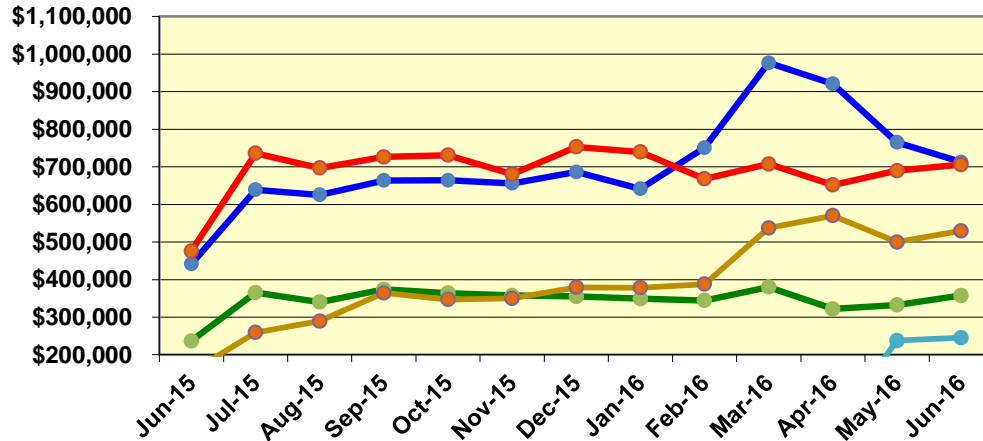


Cracked window, damage from rock throwers.

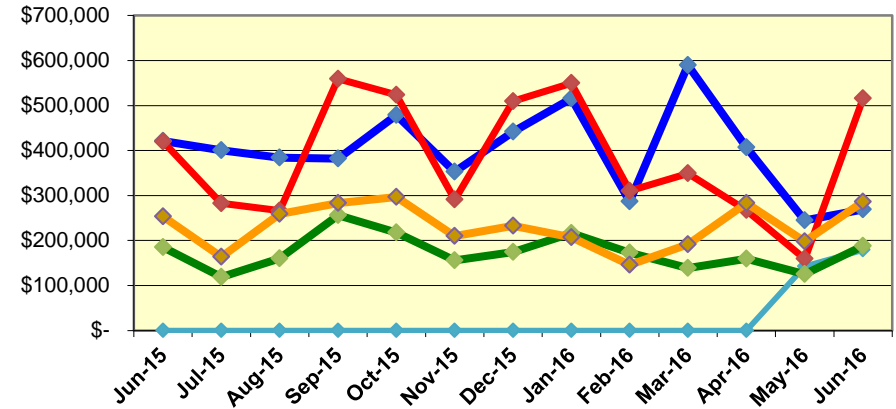
Labor and Material Costs

June 2015-2016

Labor Costs



Material Costs



	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
Labor Costs													
Blue Line	\$ 441,364	\$ 638,967	\$ 625,577	\$ 663,752	\$ 663,965	\$ 656,195	\$ 686,227	\$ 641,613	\$ 750,961	\$ 976,568	\$ 920,945	\$ 765,108	\$ 712,774
Expo Line	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 237,630	\$ 245,339
Red/Purple Lines	\$ 475,810	\$ 736,269	\$ 697,095	\$ 726,107	\$ 731,128	\$ 680,629	\$ 753,216	\$ 739,336	\$ 667,772	\$ 707,560	\$ 651,771	\$ 689,764	\$ 705,772
Green Line	\$ 236,931	\$ 365,229	\$ 340,115	\$ 373,698	\$ 363,868	\$ 357,622	\$ 355,057	\$ 349,152	\$ 344,701	\$ 380,356	\$ 322,108	\$ 332,662	\$ 357,807
Gold Line	\$ 154,498	\$ 259,228	\$ 289,571	\$ 364,544	\$ 347,072	\$ 350,038	\$ 379,336	\$ 378,751	\$ 387,820	\$ 537,337	\$ 570,186	\$ 499,874	\$ 529,761
Totals	\$ 1,308,603	\$ 1,999,693	\$ 1,952,358	\$ 2,128,101	\$ 2,106,033	\$ 2,044,483	\$ 2,173,836	\$ 2,108,852	\$ 2,151,255	\$ 2,601,822	\$ 2,465,011	\$ 2,525,038	\$ 2,551,454

Material Costs													
Blue Line	\$ 421,088	\$ 400,315	\$ 384,178	\$ 382,274	\$ 478,960	\$ 352,710	\$ 441,523	\$ 515,933	\$ 286,531	\$ 589,879	\$ 407,085	\$ 245,001	\$ 268,750
Expo Line	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 142,495	\$ 179,099
Red/Purple Lines	\$ 420,042	\$ 282,744	\$ 266,405	\$ 559,179	\$ 523,558	\$ 290,721	\$ 509,448	\$ 549,576	\$ 310,489	\$ 349,093	\$ 267,284	\$ 159,258	\$ 515,978
Green Line	\$ 185,086	\$ 118,559	\$ 159,916	\$ 256,185	\$ 217,820	\$ 155,914	\$ 174,269	\$ 216,535	\$ 172,625	\$ 138,673	\$ 159,615	\$ 125,334	\$ 188,111
Gold Line	\$ 253,284	\$ 163,954	\$ 258,793	\$ 282,958	\$ 296,684	\$ 209,546	\$ 232,338	\$ 206,856	\$ 145,891	\$ 191,351	\$ 283,211	\$ 197,620	\$ 285,877
Totals	\$ 1,279,500	\$ 965,571	\$ 1,069,291	\$ 1,480,596	\$ 1,517,022	\$ 1,008,891	\$ 1,357,578	\$ 1,488,899	\$ 915,536	\$ 1,268,996	\$ 1,117,195	\$ 869,708	\$ 1,437,815

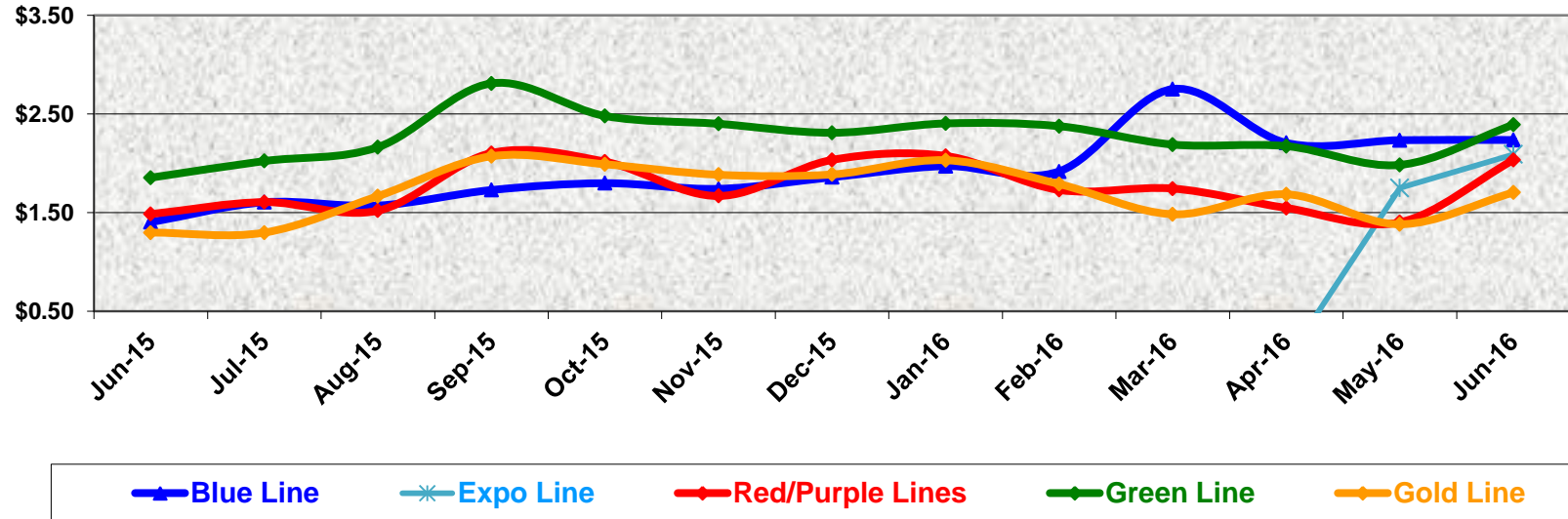
Notes: Expo Line starts operating separately May 20th 2016.

Cost Per Mile

June 2015-2016

Cost per mile:	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Average
Blue Line	\$1.40	\$1.60	\$1.57	\$1.73	\$1.80	\$1.74	\$1.86	\$1.97	\$1.92	\$2.75	\$2.21	\$2.23	\$2.24	\$1.92
Expo Line	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1.75	\$2.09	\$1.92
Red/Purple Lines	\$1.48	\$1.61	\$1.52	\$2.10	\$2.02	\$1.67	\$2.03	\$2.07	\$1.73	\$1.74	\$1.55	\$1.40	\$2.03	\$1.77
Green Line	\$1.85	\$2.02	\$2.16	\$2.81	\$2.48	\$2.40	\$2.31	\$2.40	\$2.38	\$2.19	\$2.17	\$1.98	\$2.39	\$2.27
Gold Line	\$1.30	\$1.30	\$1.67	\$2.07	\$1.99	\$1.88	\$1.89	\$2.03	\$1.79	\$1.48	\$1.68	\$1.38	\$1.70	\$1.70

Cost per Mile



ATU Absences vs. Overtime

June 2016

ABSENCE TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
AWP-ABSENT W/O PERMISSION	-	-	-	16	-	-	16
BER-BEREAVEMENT	-	-	24	24	-	24	72
CTO-COMPENSATORY TIME OFF	6	-	8	21	-	34	69
CUT-EMPLOYEE LEAVES EARLY	-	1	-	0	-	1	1
DSL-DISABILITY LEAVE/LONG	872	-	328	-	-	-	1,200
EFH-EMG. FLOAT HOL.	64	64	168	104	40	40	480
ETO-EXCUSED TIME OFF	86	17	55	4	1	17	180
FMI-FAM IND INJURY	-	-	240	-	176	-	416
FML-FAMILY CARE LEAVE	400	224	301	176	-	32	1,133
FMS-FAMILY LEAVE SICK	152	80	55	-	-	24	311
HLF-HOLIDAY FLOATING	912	176	480	216	80	238	2,102
IPD-INJURED PARTIAL DAY	-	-	5	-	-	-	5
JUR-JURY DUTY	8	24	16	-	-	-	48
LC1-LABOR CODE 233	128	47	150	64	57	104	549
LTI-OCCPIL/LONGTRM INJ LEAVE	176	-	240	176	-	-	592
OWP-OFF WITH PERMISSION	-	3	1	-	-	0	4
RTO-REQUESTED TIME OFF-NO PAY	8	-	-	-	-	-	8
SCK-SICK PAY	149	87	192	24	80	64	596
SCW-SICK WITHOUT PAY	-	25	-	16	-	24	65
TAR-TARDY	3	1	2	3	1	1	11
VAC-VACATION	1,273	196	1,428	394	268	1,264	4,822
*TRAINING	8	160	-	96	384	-	648
Total Absence Hours	4,244	1,104	3,693	1,333	1,087	1,867	13,328
**ATU Number of Work Force (active)	108	33	104	45	17	61	368
Full Work Force hours/month	18,716	5,719	18,023	7,799	2,946	10,573	63,774
Absence as a % of Work Force	23%	19%	20%	17%	37%	18%	21%

OVERTIME TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
CTB-COMPENSATORY TIME TO BANK	360	315	794	440	4	313	2,225
OTP-PREM OVERTIME	3,041	541	2,930	1,275	71	798	8,657
WLO-Worked Lunch Overtime	128	111	193	96	20	80	627
Total Overtime Hours	3,530	967	3,916	1,812	94	1,190	11,509
Overtime as a % of Work Force	19%	17%	22%	23%	3%	11%	18%

*Training hours captured by Instruction Department are added to Absences Report.

**ATU Employee Numbers from ATU Manpower Status Report (last week of the month)

Note: Overtime also covers other required activities, including Training, Component Overhaul, and Special Events.

RFS Instruction Department Activities

June 2016

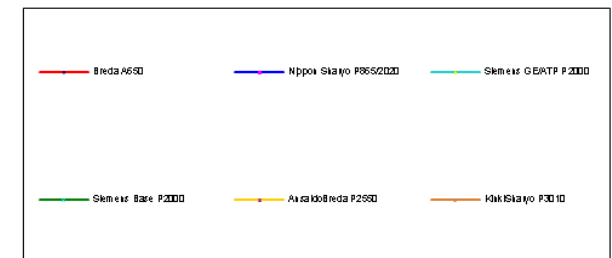
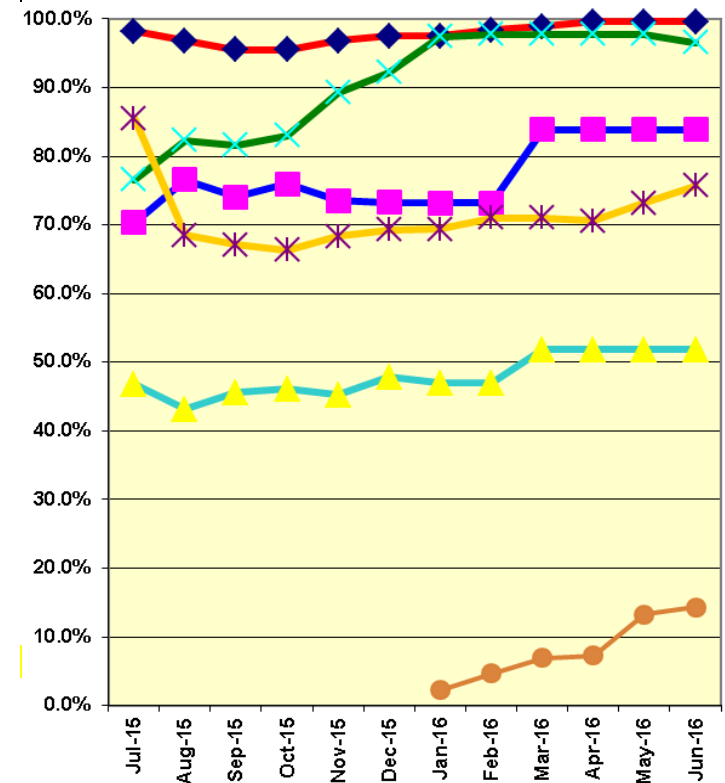
LRV Training classes completed during the month of June 2016

Description	Course Hours	Student Count	Training Hours
<u>Blue Line Training - (P865/2020 & P2000 LRVs):</u>			
RFS 2010-PETER-BRANDT HIGH-RAIL TRUCK	8	1	8
Total Blue Line Training (Hours):			8
<u>Light Rail Training [In Monrovia (P3010 LRVs)]:</u>			
No vehicle training this month			
Total Light Rail Training (Hours):			0
<u>Expo Line Training - (P865/2020, P2000, & P3010 LRVs):</u>			
RFS KINKISHARYO COUPLER	8	2	16
RFS KINKISHARYO TOD/CCTV	8	2	16
RFS KINKISHARYO VEHICLE SYSTEMS	40	2	80
RFS KINKISHARYO 10K PM	16	3	48
Total Expo Line Training (Hours):			160
<u>Gold Line Training (P2550 LRVs):</u>			
RFS ANSALDOBREDA 2550 LIGHTING	24	6	144
RFS ANSALDOBREDA 2550 PROPULSION	40	6	240
Total Gold Line Training (Hours):			384
<u>Green Line Training (P2000 LRVs):</u>			
RFS SIEMENS 2000 PROPULSION REFRESHER	24	4	96
Total Green Line Training (Hours):			96
Total RFS Instruction for the month of June 2016 (Hours):			648

Core Vehicle Training Completed: BLUE EXPO GOLD GREEN

Percentage of core vehicle training complete:	83.9%	38.0%	75.7%	96.6%
Siemens P2000 training complete:	51.8%	37.3%	N/A	N/A
KinkiSharyo P3010 training complete:	N/A	14.3%	N/A	N/A
Average Specialist Rail Experience Level in Years:	14.8	2.1	7.2	9.9

Core Training Completed



Variations caused by new hires, employee transfers, & training completed

RFS Instruction Department Activities

June 2016

HRV & Other Training classes completed during the month of June 2016

<u>Description</u>	<u>Course Hours</u>	<u>Student Count</u>	<u>Training Hours</u>
Red Line Training - Breda A650 HRV:			
NO VEHICLE TRAINING THIS MONTH	-	-	-
Total Red Line Training Hours			0

<u>Other Instruction Activities</u>	<u>Curriculum</u>	<u>Administrative</u>	<u>Technical Support</u>	<u>Total</u>
A650 Curriculum, Administrative, and Technical Support	16	88	56	160
P865/P2020 Curriculum, Administrative, and Technical Support	8	8	16	32
P2000 Curriculum, Administrative, and Technical Support	80	16	56	152
P2550 Curriculum, Administrative, and Technical Support	16	8	8	32
P3010 Curriculum, Administrative, and Technical Support	240	40	96	376
Time Off (HOL, TOV, & SCK)				120
Preparation and Attending the APTA Int'l Rail Rodeo				120
Total Other Instruction Activities				992

Core Vehicle Training Completed: RED

Percentage of Core Vehicle Training Complete: 99.6%

Average Specialist Rail Experience Level in Years: 12.4