



Rail Fleet Services Monthly Report March 2016

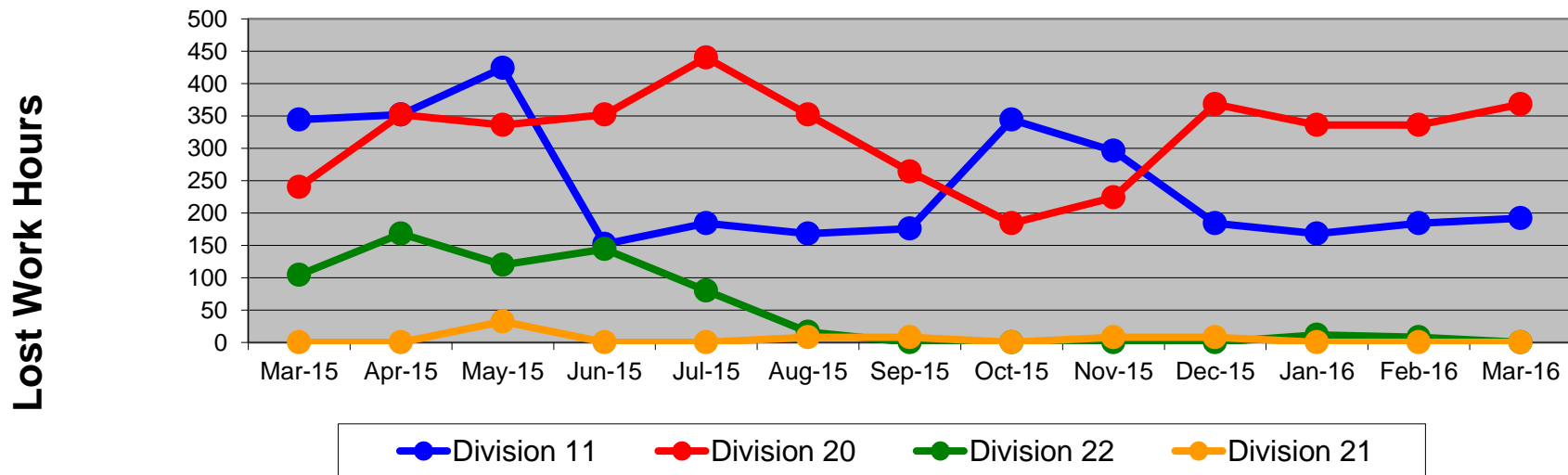
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Industrial Injuries – Lost Work Hours March 2015-2016

	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	13-Month Period
Division 11	344	352	424	152	184	168	176	344	296	184	168	184	192	3,168
Division 20	240	352	336	352	440	352	264	184	224	368	336	336	368	4,152
Division 22	104	168	120	144	80	16	0	0	0	0	12	8	0	652
Division 21	0	0	32	0	0	8	8	0	8	8	0	0	0	64
Totals	688	872	912	648	704	544	448	528	528	560	516	528	560	8,036

Industrial Injuries (lost work hours)



Rail Vehicle Accidents & Major Incidents

March 2015-2016

Repair Costs	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	13-Month Period
Blue/Expo Line	\$17,322	\$12,056	\$1,655	\$4,811	\$5,716	\$1,971	\$2,838	\$40,969	\$65,454	\$17,160	\$4,570	\$7,379	\$2,037	\$183,938
Red/Purple Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Green Line	\$0	\$0	\$0	\$0	\$0	\$5,333	\$0	\$1,205	\$0	\$23	\$0	\$0	\$0	\$6,561
Gold Line	\$0	\$0	\$4,833	\$1,494	\$8,204	\$2,611	\$0	\$1,074	\$1,547	\$1,547	\$0	\$53	\$1,487	\$22,850
Totals	\$17,322	\$12,056	\$6,488	\$6,305	\$13,920	\$9,915	\$2,838	\$43,248	\$67,001	\$18,730	\$4,570	\$7,432	\$3,524	\$213,349

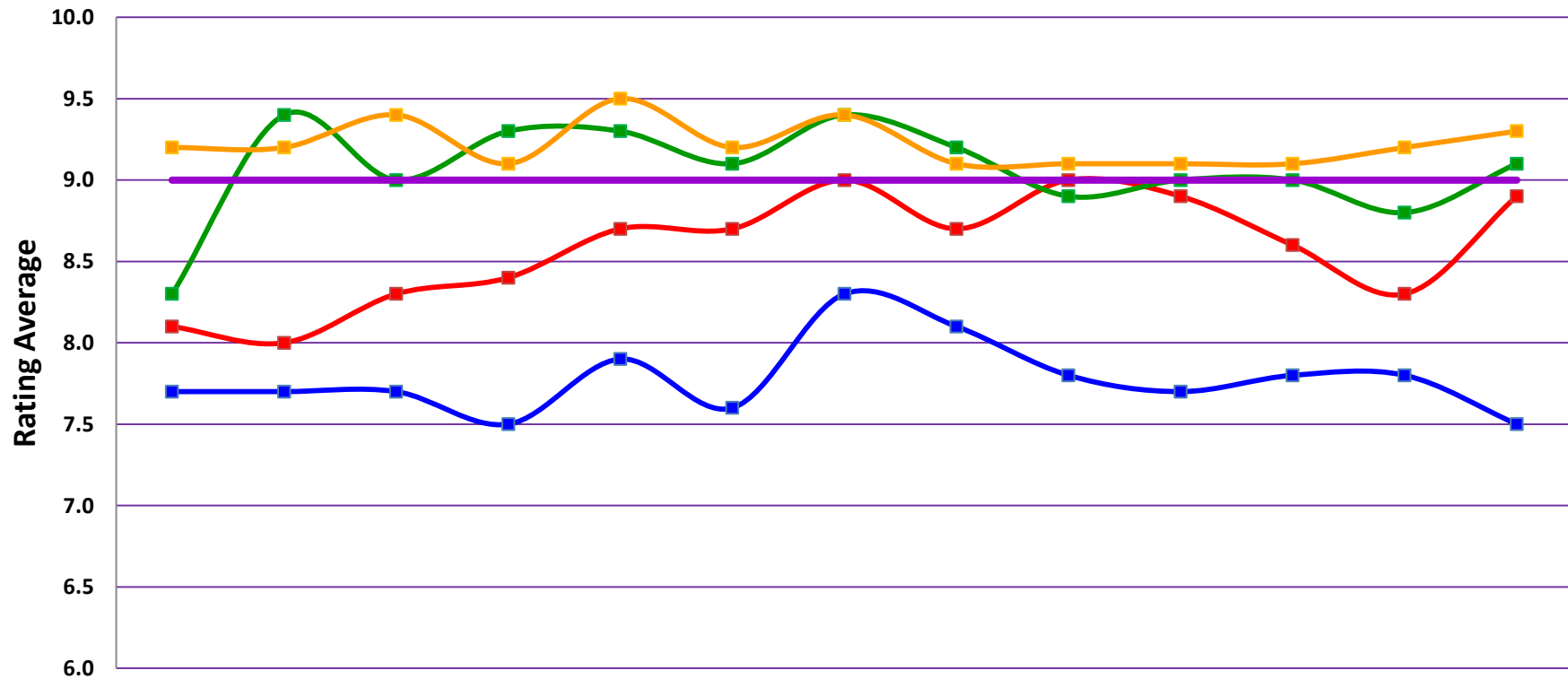
Rail Vehicle Accident Costs - March 2016				
Date	Incident #	Problem Code	Incident Description	Repair Cost
Metro Blue/Expo Line				
3/5/16	2704213	Train vs. Vehicle	A 10-73 was reported at Hauser Grade Crossing. Track 4 SB.	\$ 1,867
3/7/16	2704861	Train vs. Vehicle	A 10-73 was reported at Venice and Flower. Track 2 SB.	\$ 170
3/9/16	2705722	Train vs. Object	A 10-71 was reported, bicycle on station platform. Track 1 NB, Vernon Station.	\$ -
3/15/16	2707806	Train vs. Object	A 10-71 was reported, making contact with an A-Frame at 7th St. Crossing, NB Track 3.	\$ -
3/23/16	2710930	Train vs. Vehicle	A 10-73 was reported at Transit Mall, NB Track 1.	\$ -
MBL & EXPO Total				\$ 2,037
Metro Gold Line				
3/11/16	2706426	Train vs. Vehicle	A 10-73 was reported at 1st St. and Clarence.	\$ 1,487
MGOLD Total				\$ 1,487
Grand Total				\$ 3,524
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

March 2015-2016

Car Cleanliness Monthly Report



Service Delivery March 2016

March 2016 - Service Delivery

Blue/Expo Line Fleet Size: 92

<u>Pull Out</u>	<u>Average Vehicles</u>		<u>% Up (Down)</u>
	<u>Required</u>	<u>Average Available</u>	
Weekday:	67	69	103%
Weekend:	34	52	153%
Late Pullouts: 0			
Monthly Mileage:	569,120		

Red/Purple Line Fleet Size: 104

<u>Pull Out</u>	<u>Vehicles Required</u>		<u>% Up (Down)</u>
	<u>Required</u>	<u>Average Available</u>	
Weekday:	74	80	108%
Weekend:	54	70	130%
Late Pullouts: 0			
Monthly Mileage:	606,228		

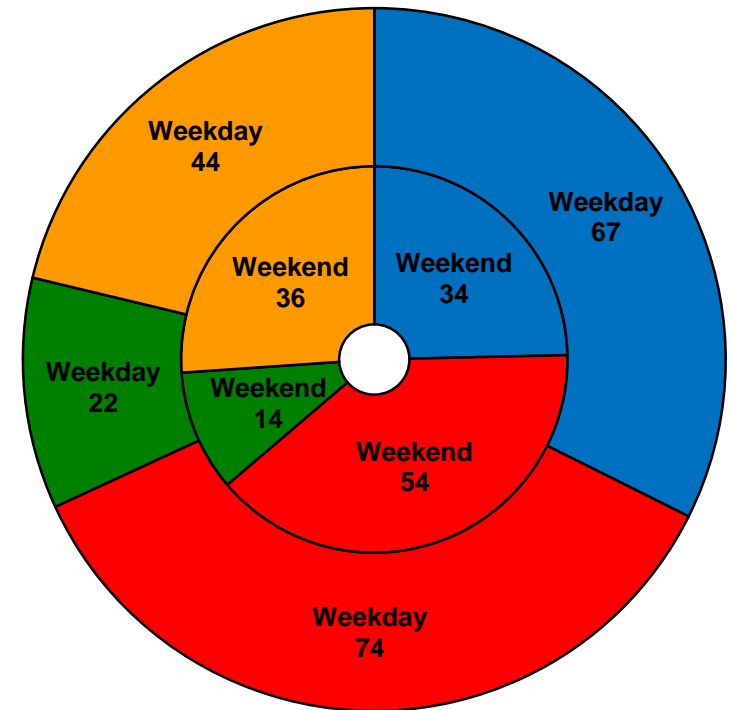
Green Line Fleet Size: 29

<u>Pull Out</u>	<u>Vehicles Required</u>		<u>% Up (Down)</u>
	<u>Required</u>	<u>Average Available</u>	
Weekday:	22	22	100%
Weekend:	14	17	121%
Late Pullouts: 0			
Monthly Mileage:	237,075		

Gold Line Fleet Size: 60

<u>Pull Out</u>	<u>Average Vehicles</u>		<u>% Up (Down)</u>
	<u>Required</u>	<u>Average Available</u>	
Weekday:	44	44	100%
Weekend:	36	36	100%
Late Pullouts: 0			
Monthly Mileage*:	491,554		

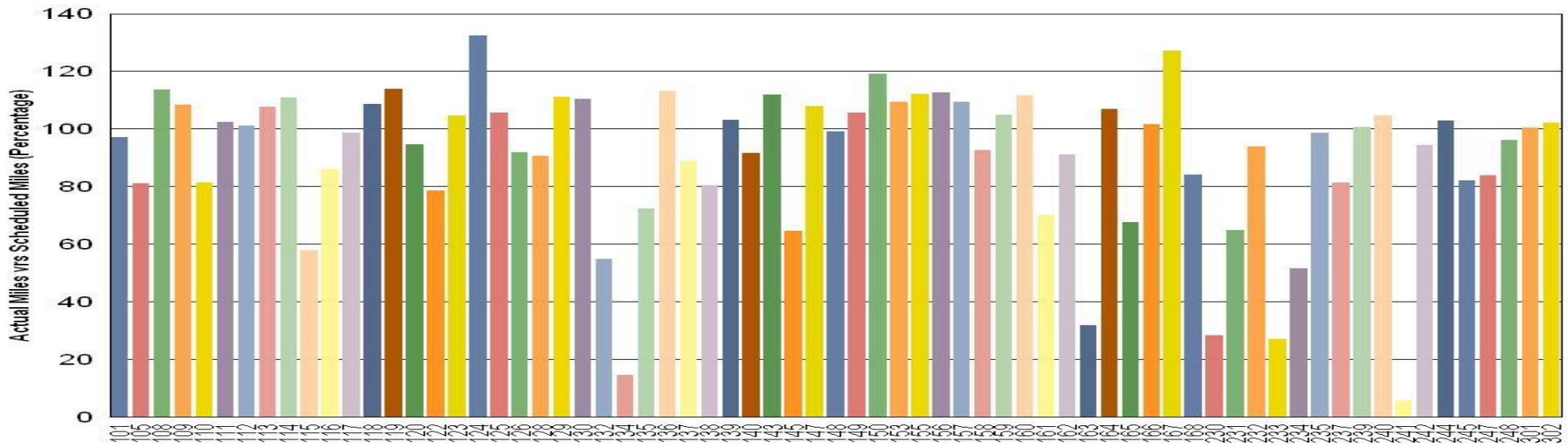
* Gold Line monthly mileage includes Division 21 and 24.



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

Vehicle Utilization March 2016

Metro Blue/Expo Line (92 Cars)



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

Car # 134 Interior Paint and Body repair and Open Work Orders

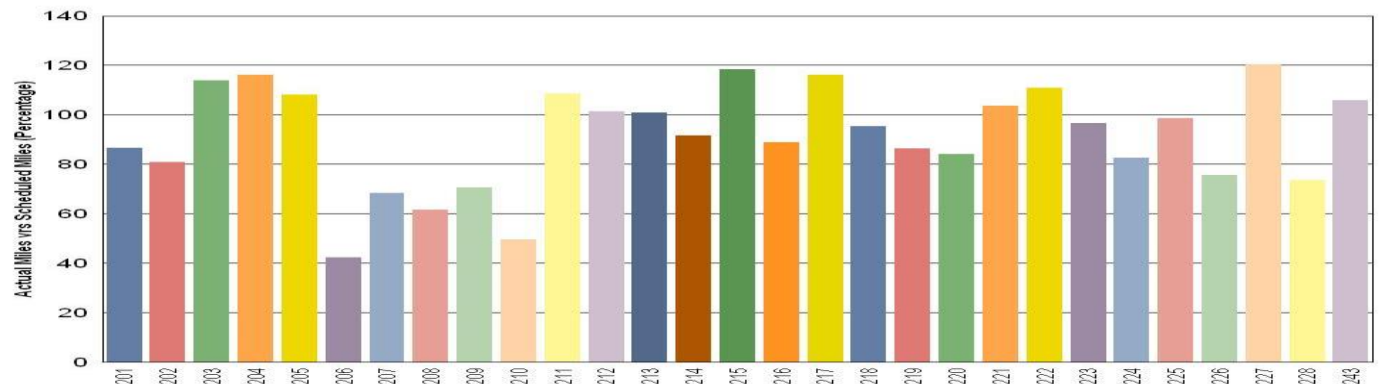
Car # 163 Repeated Propulsion faults, held out of service for repair

Car # 230 Repeated Propulsion faults, held out of service for repair

Car # 233 Exterior Paint/Body Rust Abatement Project

Car # 241 Truck work and parts issues

Metro Green Line (29 Cars)



Green Line: The fleet has met the daily maximum utilization requirements for the month.



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

Vehicle Utilization March 2016

Red/Purple Line:

The following cars were out of service due to:

Car # 503-504 ATP fault: loss of cab signal

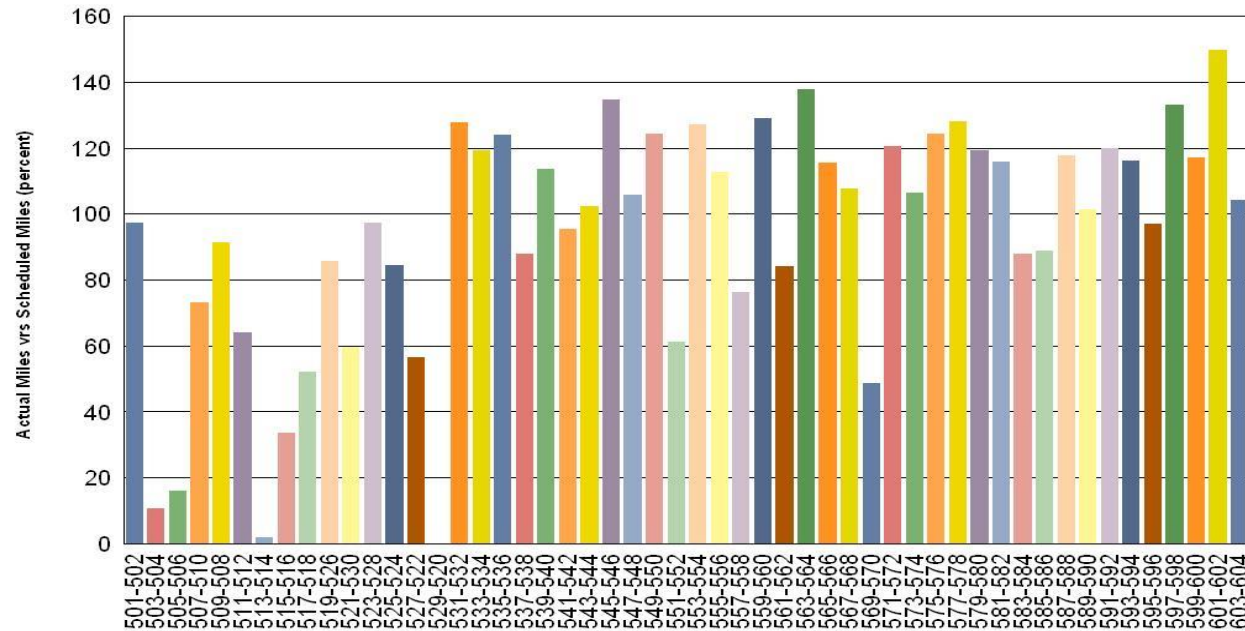
Car # 505-506 Propulsion fault, CB1 trip and blower motors

Car # 513-514 ATP fault: emergency brake application

Car # 515-516 Propulsion fault: CB1 trip

Car # 529-520 Propulsion fault: require blower motor

Metro Red/Purple Line (104 Cars)



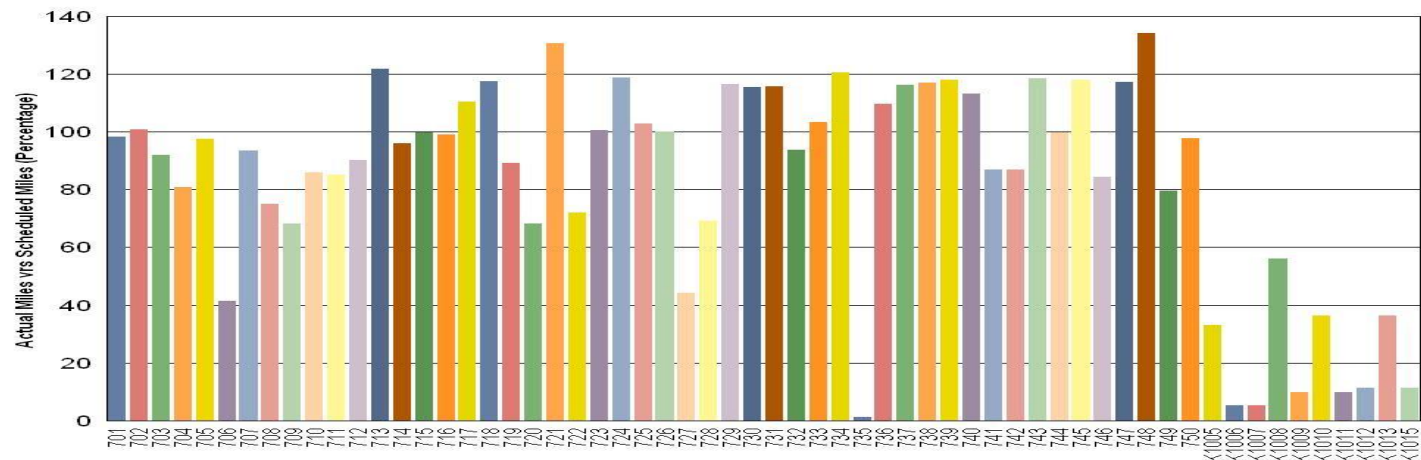
Gold Line:

The following cars were out of service due to:

Car # 735 LON databus problem affecting the Auxiliary Inverter

The KinkiSharyo cars (K1000 series) are going through acceptance modifications.

Metro Gold Line (60 Cars)



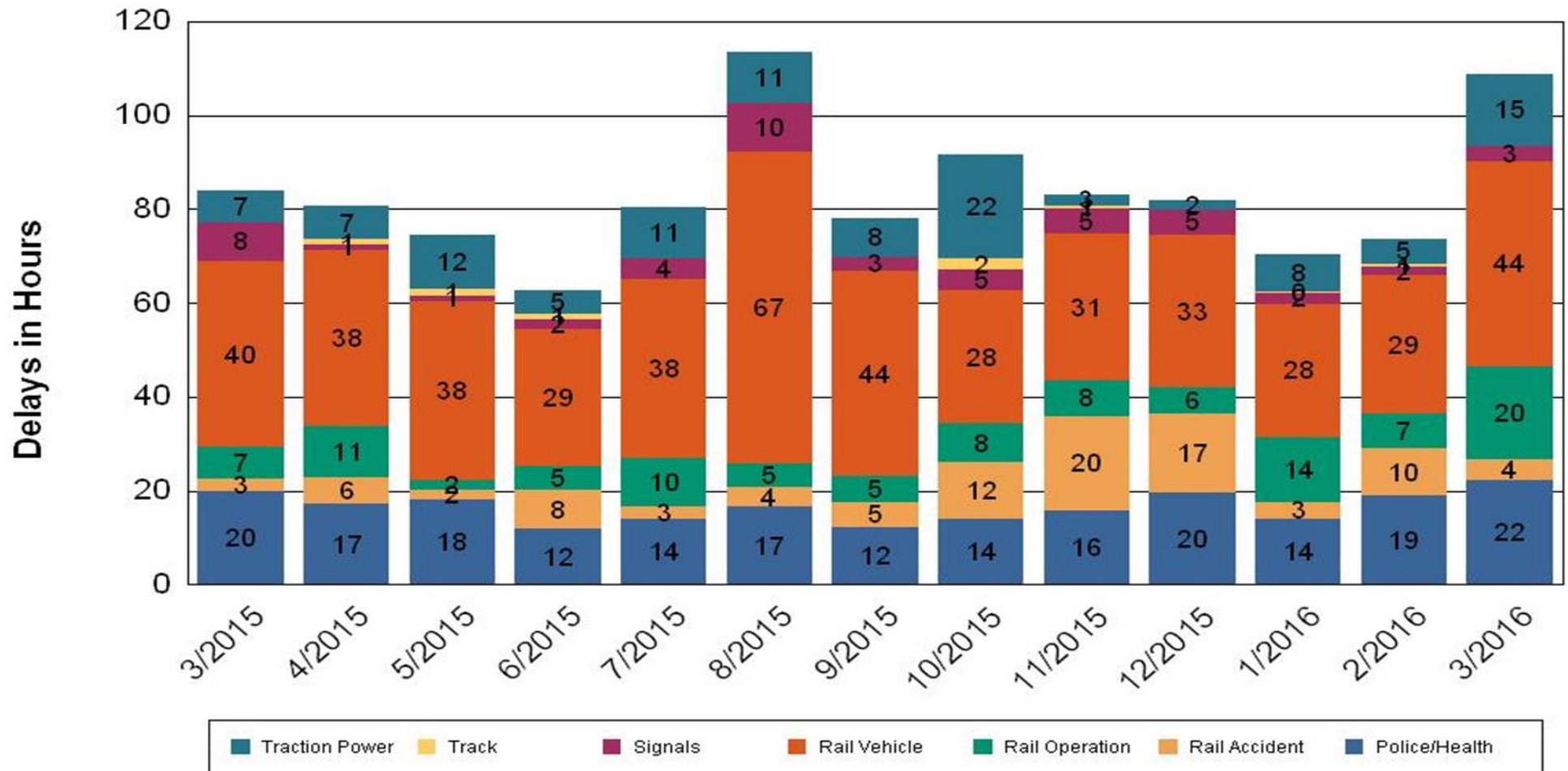
•Percentage includes an average 4% mileage deduction for yard mileage and vehicle testing.



All Train Delays (Hours) March 2015-2016

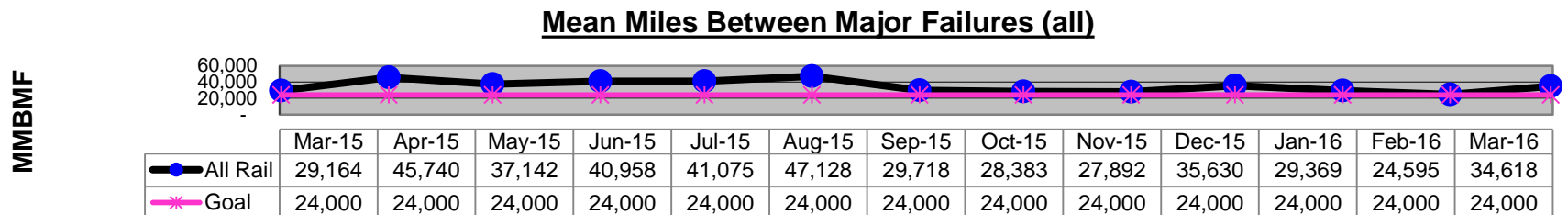
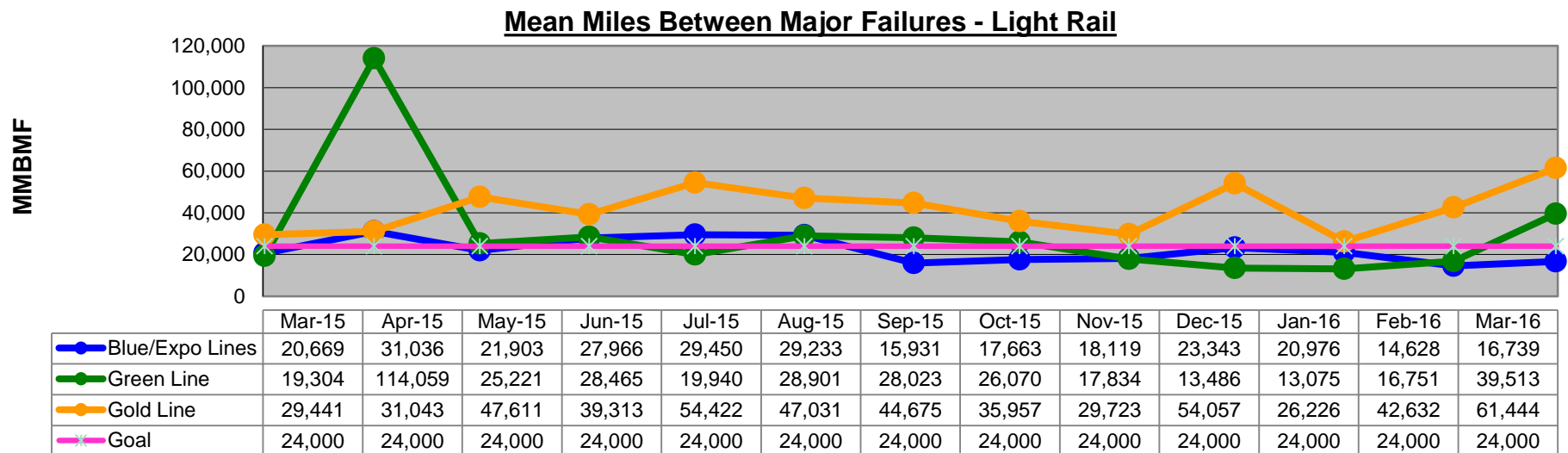
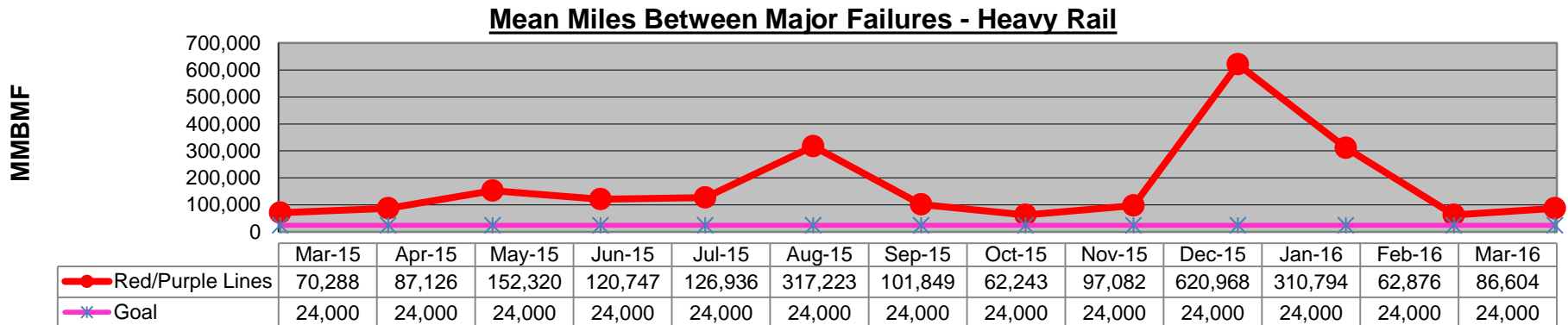
All Train Delays

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



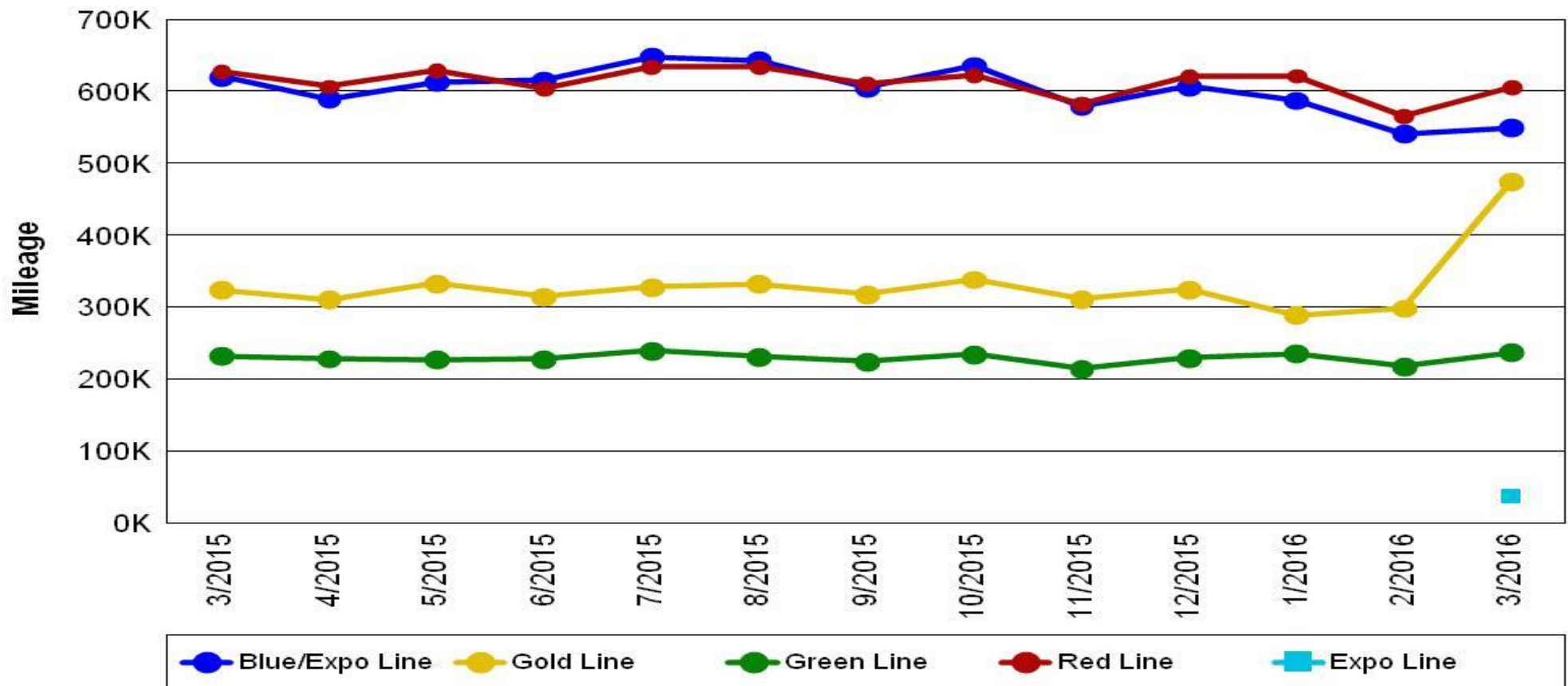
Mean Miles Between Failures (Major)

March 2015-2016



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

Rail Division Monthly Mileage



Notes:

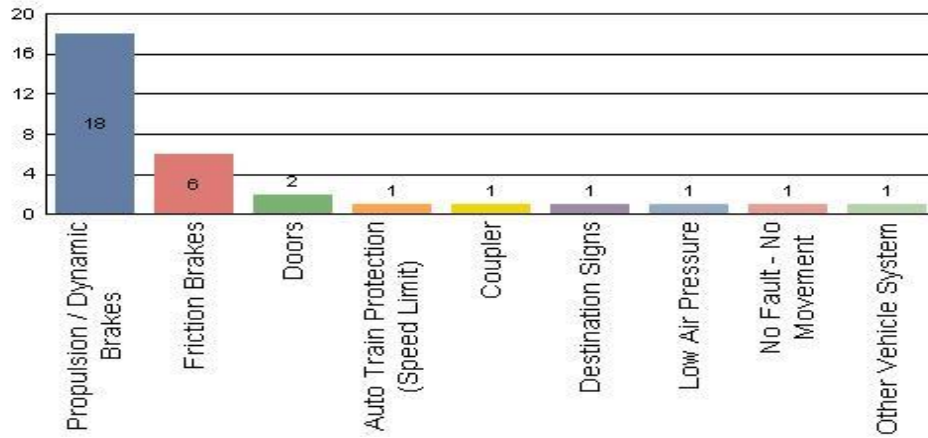
- ❖ Gold Line increase in mileage is due to the open of the Foothill extension, which includes stations further apart and faster average running speeds.
- ❖ With the opening of Division 14 in Santa Monica, the Expo Line mileage is now being reported separately from the Blue Line.

Top Incident Categories

March 2016

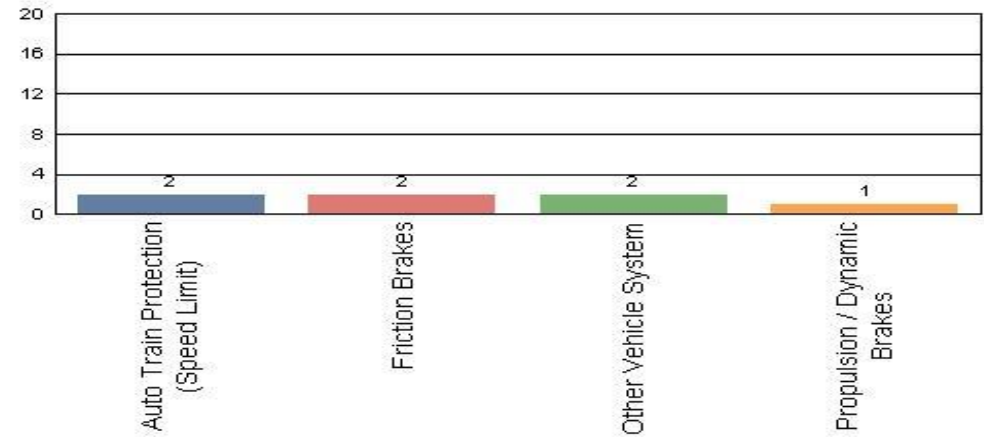
Metro Blue/Expo Line (Div 11 & Div 14)

Top Incident Categories



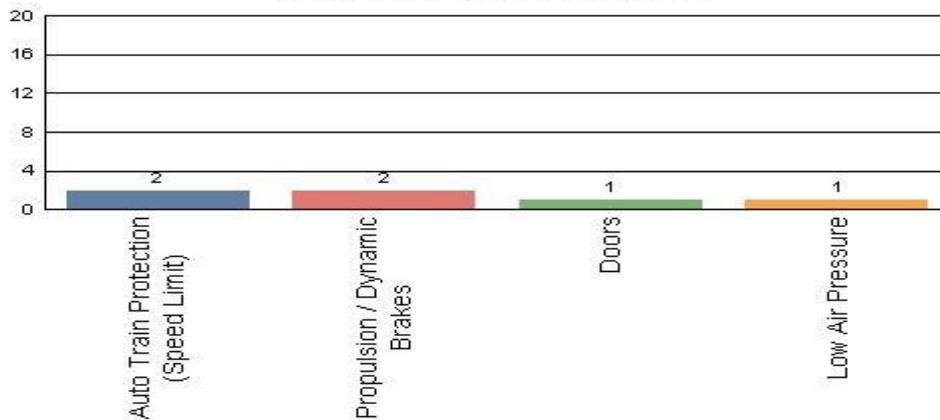
Metro Red/Purple Line (Div 20)

Top Incident Categories



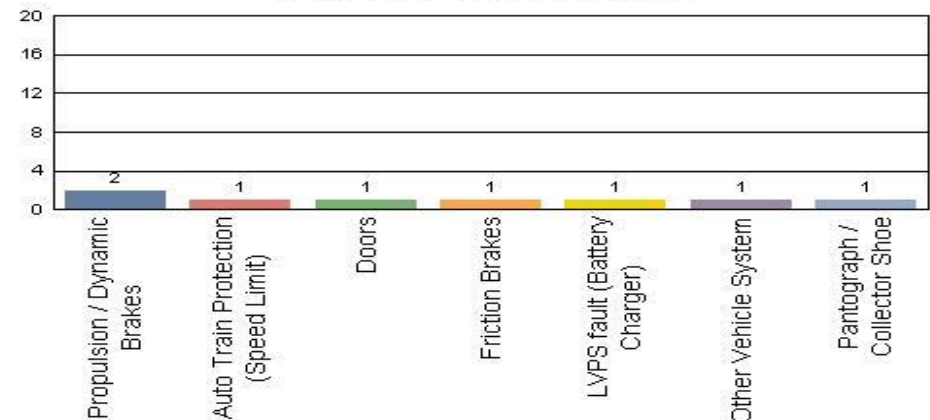
Metro Green Line (Div 22)

Top Incident Categories



Metro Gold Line (Div 21 & Div 24)

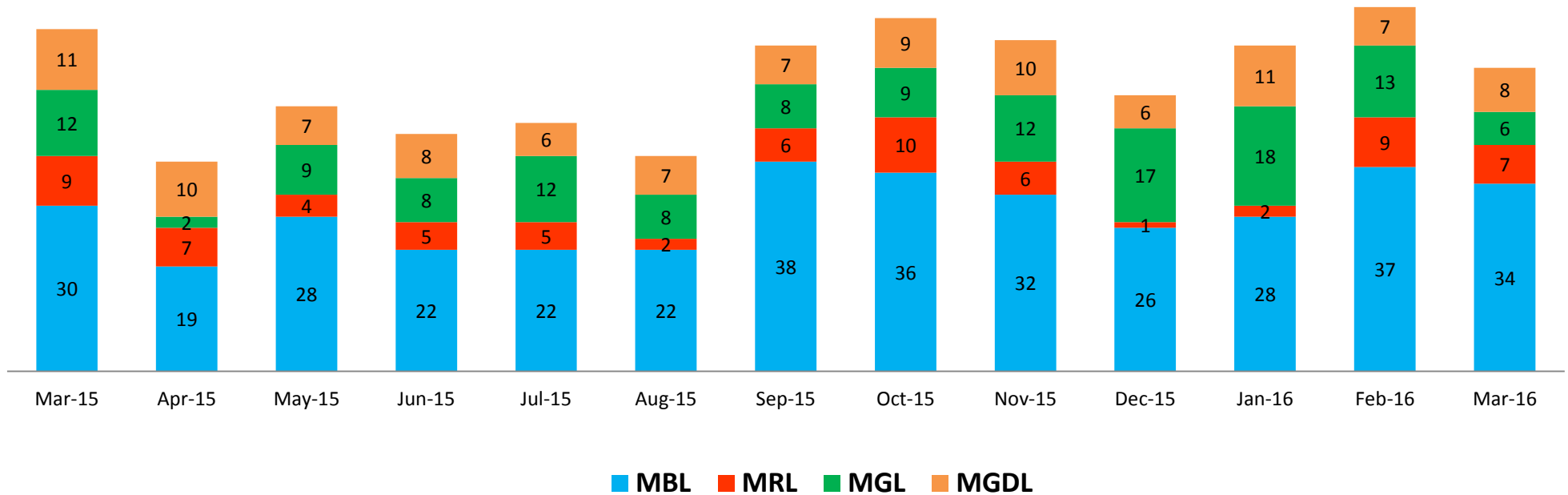
Top Incident Categories



Major Incidents

March 2015-2016

Numbers of Major System Failures (by Line)

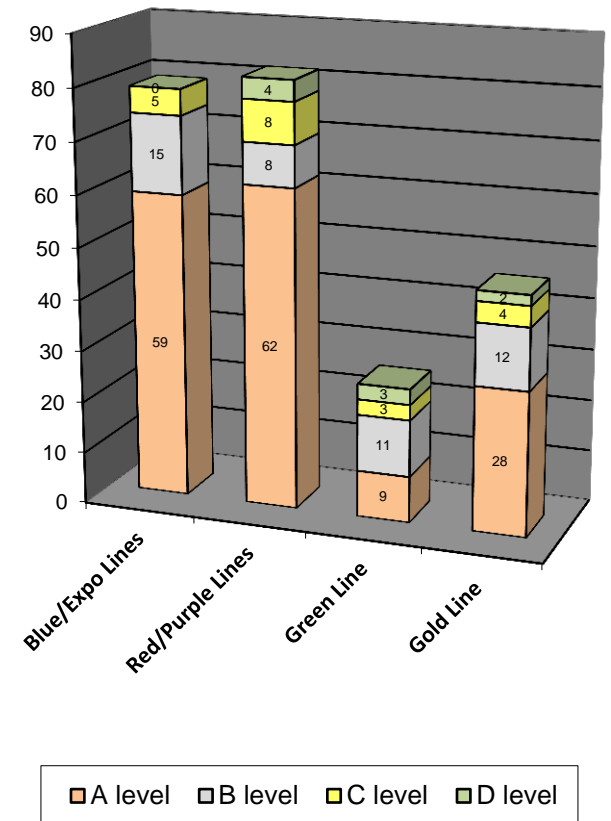


Preventive Maintenance Compliance

March 2015-2016

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

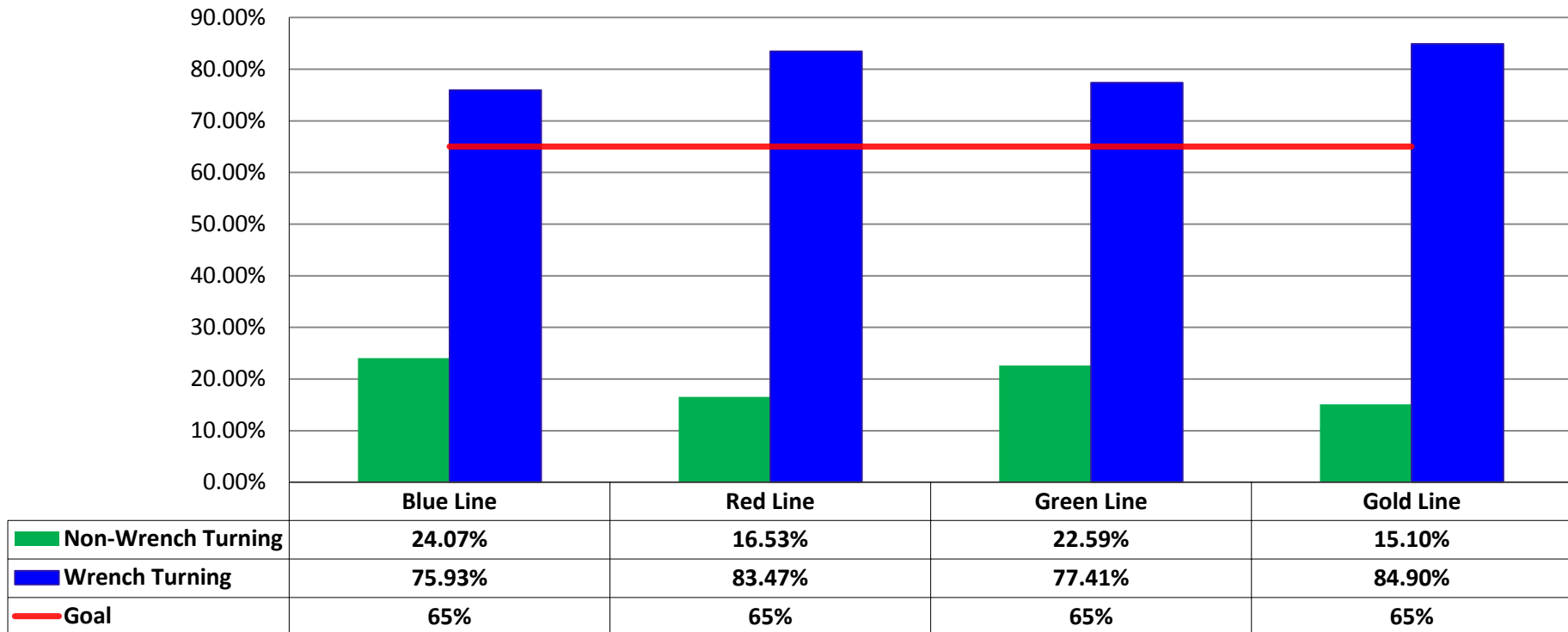
Number of Preventive Maintenance Inspections - March 2016					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	59	15	5	0	79
Red/Purple Lines	62	8	8	4	82
Green Line	9	11	3	3	26
Gold Line	28	12	4	2	46
Totals:	158	46	20	9	233



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

RFS Leader Wrench Turning March 2016

RFS - Leader Wrench Turning March 2016



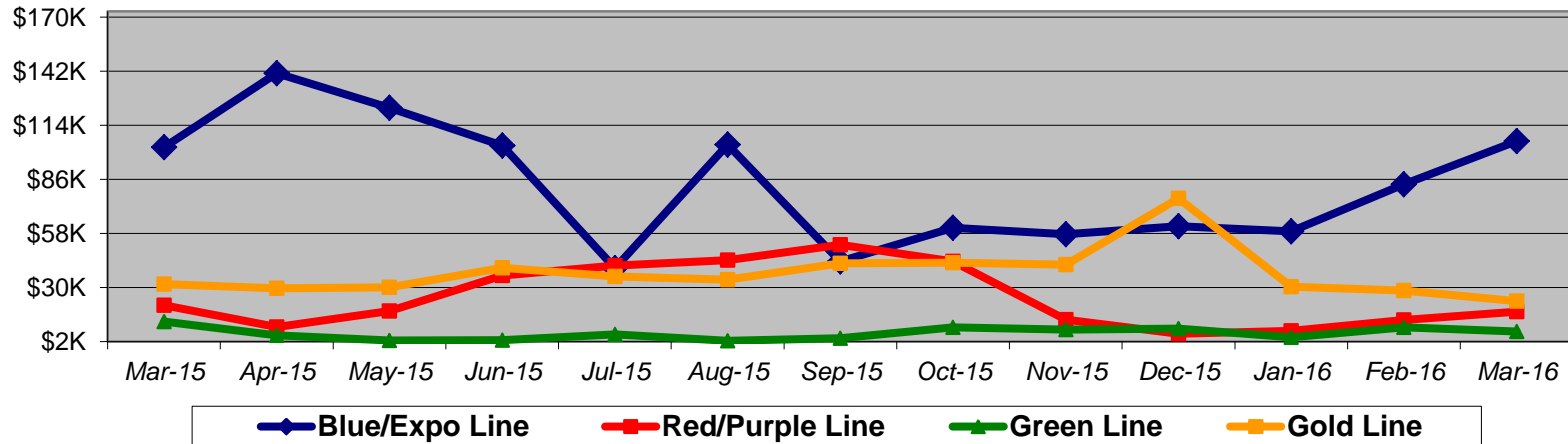
Notes: Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader

Vandalism & Graffiti Report

March 2015-2016

Graffiti Costs

	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	13-Month Period
Blue/Expo Line	\$103K	\$141K	\$123K	\$104K	\$40K	\$104K	\$43K	\$61K	\$58K	\$62K	\$59K	\$83K	\$106K	\$1,086K
Red/Purple Line	\$21K	\$9K	\$18K	\$36K	\$41K	\$44K	\$52K	\$43K	\$13K	\$6K	\$7K	\$13K	\$17K	\$322K
Green Line	\$12K	\$5K	\$3K	\$3K	\$6K	\$2K	\$4K	\$9K	\$8K	\$9K	\$4K	\$9K	\$7K	\$81K
Gold Line	\$32K	\$30K	\$30K	\$40K	\$36K	\$34K	\$42K	\$43K	\$42K	\$76K	\$30K	\$28K	\$23K	\$486K
Totals:	\$167K	\$185K	\$173K	\$183K	\$123K	\$185K	\$142K	\$156K	\$121K	\$152K	\$101K	\$134K	\$153K	\$1,976K



March 2016 Vandalism & Graffiti - All Rail				
	Qty	Labor	Materials	Totals
Windows Replaced	325	\$ 37,548	\$ 46,087	\$ 83,635
Vandal Shields Replaced	1,243	\$ 31,532	\$ 13,030	\$ 44,562
Seats Cleaned	383	\$ 2,433	\$ 496	\$ 2,929
Seats Inserts Replaced	116	\$ 3,665	\$ 3,413	\$ 7,078
Graffiti Removal - Other	596	\$ 8,102	\$ 1,540	\$ 9,642
Repainting Panels	170	\$ 5,355	\$ -	\$ 5,355
Totals	2,833	\$ 88,635	\$ 64,566	\$ 153,201

Graffiti Pictures

March 2016

Blue Line



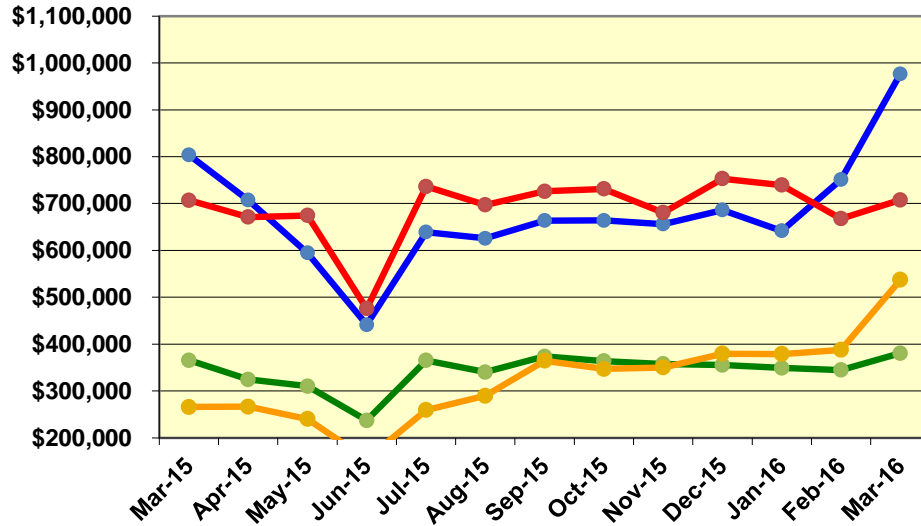
Gold Line (P3010)



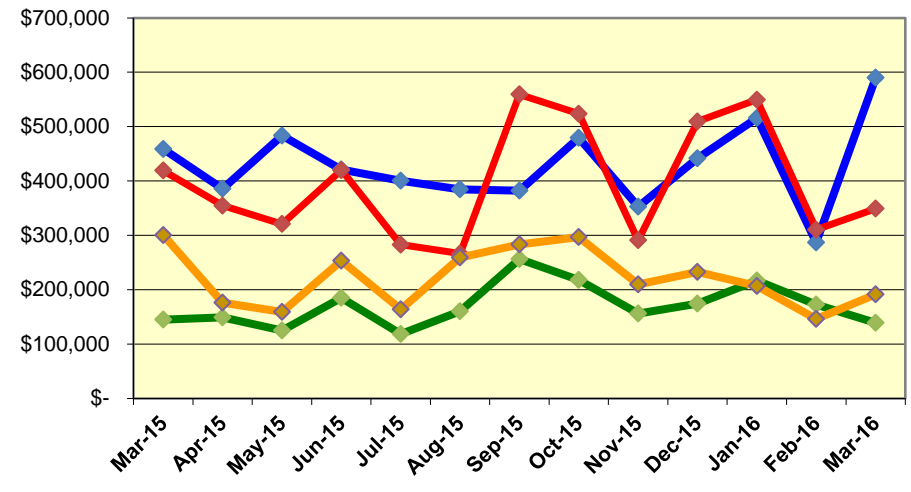
Labor and Material Costs

March 2015-2016

Labor Costs



Material Costs



Mar-15	Apr-15	May-15	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
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Labor Costs

	Mar-15	Apr-15	May-15	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
Blue/Expo Lines	\$ 803,757	\$ 707,348	\$ 594,550	\$ 441,364	\$ 638,967	\$ 625,577	\$ 663,752	\$ 663,965	\$ 656,195	\$ 686,227	\$ 641,613	\$ 750,961	\$ 976,568
Red/Purple Lines	\$ 706,794	\$ 671,084	\$ 674,681	\$ 475,810	\$ 736,269	\$ 697,095	\$ 726,107	\$ 731,128	\$ 680,629	\$ 753,216	\$ 739,336	\$ 667,772	\$ 707,560
Green Line	\$ 365,457	\$ 324,550	\$ 310,181	\$ 236,931	\$ 365,229	\$ 340,115	\$ 373,698	\$ 363,868	\$ 357,622	\$ 355,057	\$ 349,152	\$ 344,701	\$ 380,356
Gold Line	\$ 265,835	\$ 266,529	\$ 240,056	\$ 154,498	\$ 259,228	\$ 289,571	\$ 364,544	\$ 347,072	\$ 350,038	\$ 379,336	\$ 378,751	\$ 387,820	\$ 537,337
Totals	\$ 2,141,842	\$ 1,969,511	\$ 1,819,467	\$ 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

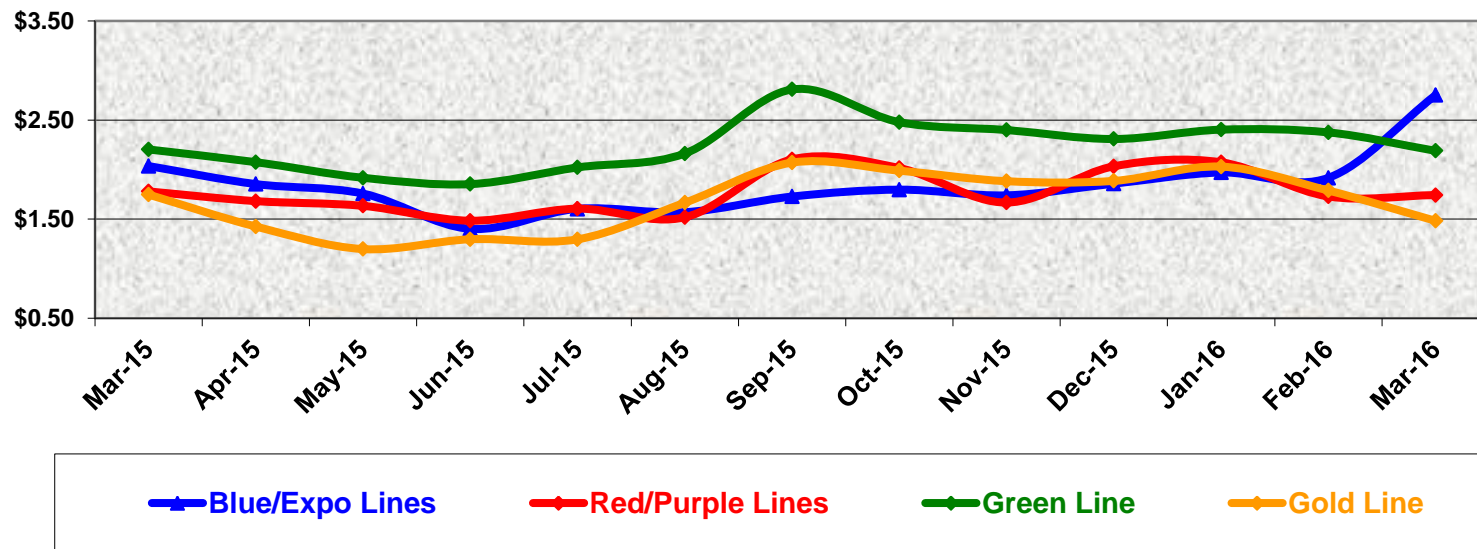
Material Costs

	Mar-15	Apr-15	May-15	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
Blue/Expo Lines	\$ 458,588	\$ 385,794	\$ 483,368	\$ 421,088	\$ 400,315	\$ 384,178	\$ 382,274	\$ 478,960	\$ 352,710	\$ 441,523	\$ 515,933	\$ 286,531	\$ 589,879
Red/Purple Lines	\$ 419,099	\$ 354,492	\$ 320,754	\$ 420,042	\$ 282,744	\$ 266,405	\$ 559,179	\$ 523,558	\$ 290,721	\$ 509,448	\$ 549,576	\$ 310,489	\$ 349,093
Green Line	\$ 144,927	\$ 148,839	\$ 125,054	\$ 185,086	\$ 118,559	\$ 159,916	\$ 256,185	\$ 217,820	\$ 155,914	\$ 174,269	\$ 216,535	\$ 172,625	\$ 138,673
Gold Line	\$ 300,170	\$ 175,922	\$ 159,016	\$ 253,284	\$ 163,954	\$ 258,793	\$ 282,958	\$ 296,684	\$ 209,546	\$ 232,338	\$ 206,856	\$ 145,891	\$ 191,351
Totals	\$ 1,322,783	\$ 1,065,048	\$ 1,088,194	\$ 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

Cost Per Mile March 2015-2016

Cost per mile:	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Average
Blue/Expo Lines	\$2.04	\$1.85	\$1.76	\$1.40	\$1.60	\$1.57	\$1.73	\$1.80	\$1.74	\$1.86	\$1.97	\$1.92	\$2.75	\$1.85
Red/Purple Lines	\$1.78	\$1.68	\$1.63	\$1.48	\$1.61	\$1.52	\$2.10	\$2.02	\$1.67	\$2.03	\$2.07	\$1.73	\$1.74	\$1.77
Green Line	\$2.20	\$2.08	\$1.92	\$1.85	\$2.02	\$2.16	\$2.81	\$2.48	\$2.40	\$2.31	\$2.40	\$2.38	\$2.19	\$2.25
Gold Line	\$1.75	\$1.43	\$1.20	\$1.30	\$1.30	\$1.67	\$2.07	\$1.99	\$1.88	\$1.89	\$2.03	\$1.79	\$1.48	\$1.67

Cost per Mile



ATU Absences vs. Overtime

March 2016

ABSENCE TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
AWP-ABSENT W/O PERMISSION	-	152	24	-	-	176
BER-BEREAVEMENT	72	24	24	40	-	160
CTO-COMPENSATORY TIME OFF	316	484	124	56	187	1,167
CUT-EMPLOYEE LEAVES EARLY	1	0	-	-	-	1
DSL-DISABILITY LEAVE/LONG	1,136	680	-	-	320	2,136
EFH-EMG. FLOAT HOL.	24	88	-	16	8	136
ETO-EXCUSED TIME OFF	117	46	2	1	24	190
FMI-FAM IND INJURY	40	-	-	32	264	336
FML-FAMILY CARE LEAVE	272	916	160	16	256	1,620
FMS-FAMILY LEAVE SICK	66	167	-	-	16	249
HLF-HOLIDAY FLOATING	192	208	64	8	104	576
II-INDUSTRIAL INJURY	16	-	-	-	-	16
IIR-INDUS INJURY -REOCCUR.	-	184	-	-	-	184
JUR-JURY DUTY	-	8	-	8	16	32
LC1-LABOR CODE 233	404	231	136	56	296	1,123
LTI-OCCPIL/LONGTRM INJ LEAVE	184	184	-	-	-	368
OWP-OFF WITH PERMISSION	-	3	-	-	-	3
RTO-REQUESTED TIME OFF-NO PAY	64	1	-	11	-	76
SCK-SICK PAY	289	157	135	32	287	901
SCW-SICK WITHOUT PAY	168	8	177	2	80	434
SPN-SCHOOL PARTNER NOT PAID	-	-	-	-	4	4
TAR-TARDY	2	2	1	0	0	6
VAC-VACATION	890	1,091	274	180	404	2,838
TRAINING	713	452	68	-	880	2,113
Total Absence Hours	4,966	5,086	1,189	457	3,147	14,845

OVERTIME TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
CTB-COMPENSATORY TIME TO BANK	154	52	96	4	-	306
OTP-PREM OVERTIME	3,743	3,738	1,269	205	30	8,985
WLO-Worked Lunch Overtime	181	188	98	29	2	497
Total Overtime Hours	4,079	3,978	1,463	238	32	9,789

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

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



Metro

RFS Instruction Department Activities

March 2016

LRV Training classes completed during the month of March 2016

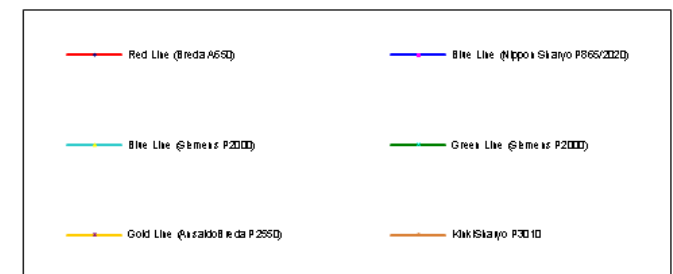
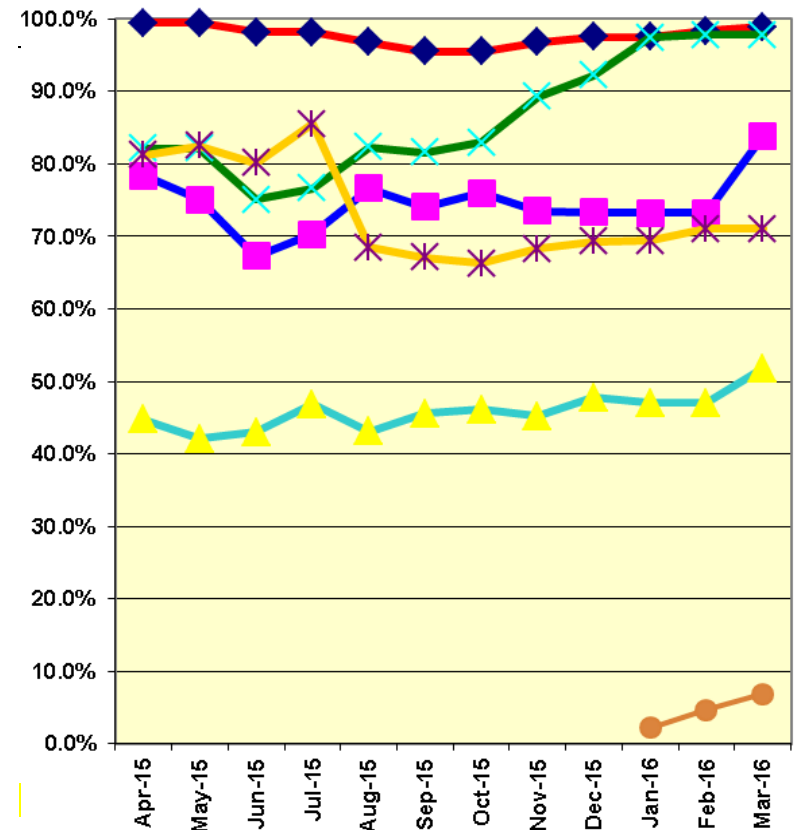
Description	Course Hours	Student Count	Training Hours
<u>Blue Line Training - (P865/2020 & P2000 LRVs):</u>			
ANNUAL MAINTENANCE SAFETY AWARENESS	1.5	54	81
WAYSIDE WORKER PROTECTION	4	38	152
Total Blue Line Training (Hours):			233
<u>Light Rail Training [In Monrovia (P3010 LRVs):</u>			
RFS KINKISHARYO CARBODY	24	11	264
RFS KINKISHARYO AUTO TRAIN PROTECTION	32	11	352
RFS KINKISHARYO TRUCKS	24	11	264
Total Light Rail Training (Hours):			880
<u>Expo Line Training - (P865/2020, P2000, & P3010 LRVs):</u>			
RFS KINKISHARYO INTRO & MAINLINE RESPONSE	16	12	192
RFS SIEMENS MAINLINE DUTY, DEAD TOW AND VEHICLE RECOVERY (HANI	32	9	288
			480
<u>Green Line Training (P2000 LRVs):</u>			
WAYSIDE WORKER PROTECTION	4	17	68
Total Green Line Training (Hours):			68

Total RFS Instruction for the month of March 2016 (Hours): 2,113

Core Vehicle Training Completed: BLUE EXPO GOLD GREEN

Percentage of core vehicle training complete:	83.9%	36.3%	71.0%	97.4%
Siemens P2000 training complete:	51.8%	39.5%	N/A	N/A
KinkiSharyo P3010 training complete:	N/A	6.9%	N/A	N/A
Average Specialist Rail Experience Level in Years:	14.5	1.7	7.0	9.8

Core Training Completed



RFS Instruction Department Activities

March 2016

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

Description	Course Hours	Student Count	Training Hours	
<u>Red Line Training (Breda A650 HRV):</u>				
RFS BRED A650 COUPLER	8	3	24	
RFS BRED A650 TRUCKS & SUSPENSION	24	3	72	
RFS BRED A650 COMMUNICATIONS	12	3	36	
RFS BRED A650 PROPULSION ABB	64	5	320	
Total Red Line Training (Hours):			452	Total
<u>Other Instruction Activities</u>				
	C	A	TS	
A650 Curriculum, Administrative, and Technical Support	8	8	16	32
P865\P2020 Curriculum, Administrative, and Technical Support	88	20	48	156
P2000 Curriculum, Administrative, and Technical Support	80	24	104	208
P2550 Curriculum, Administrative, and Technical Support	8	8	16	32
P3010 Curriculum, Administrative, and Technical Support	16	8	16	40
				<u>468</u>

Total Other Instruction Activities

Core Vehicle Training Completed: **RED**

Percentage of core vehicle training complete: 98.9%

Average Specialist Rail Experience Level in Years: 12.2