



Rail Fleet Services Monthly Report February 2016



Metro

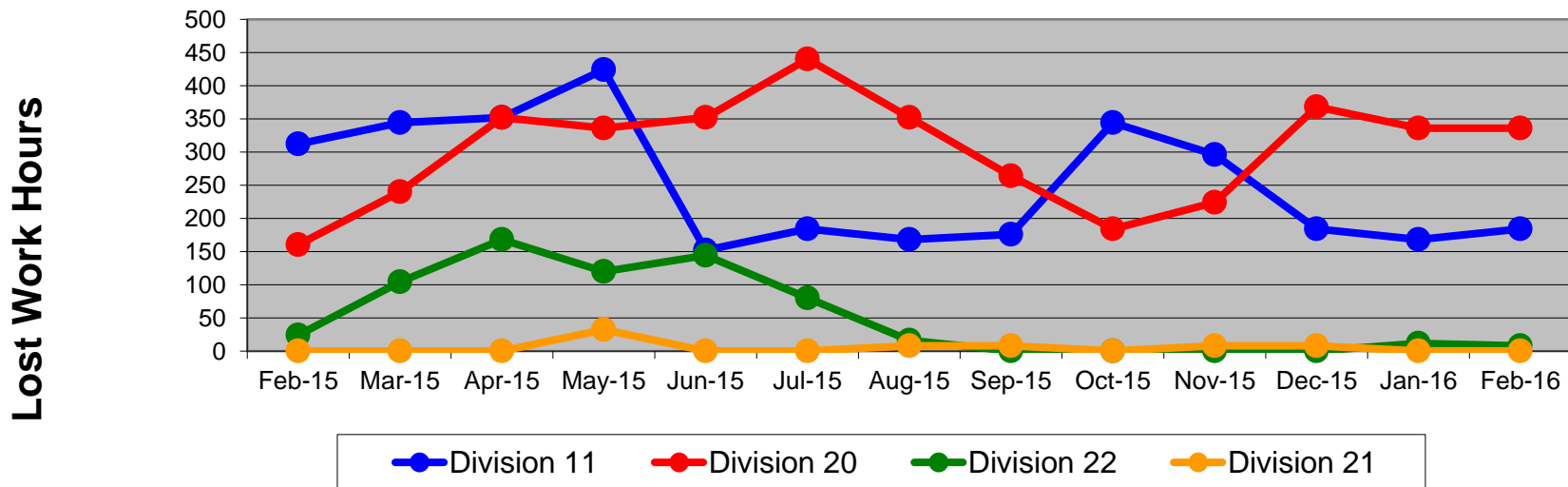
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Industrial Injuries – Lost Work Hours February 2015-2016

	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	13-Month Period
Division 11	312	344	352	424	152	184	168	176	344	296	184	168	184	3,288
Division 20	160	240	352	336	352	440	352	264	184	224	368	336	336	3,944
Division 22	24	104	168	120	144	80	16	0	0	0	0	12	8	676
Division 21	0	0	0	32	0	0	8	8	0	8	8	0	0	64
Totals	496	688	872	912	648	704	544	448	528	528	560	516	528	7,972

Industrial Injuries (lost work hours)



Rail Vehicle Accidents & Major Incidents

February 2015-2016

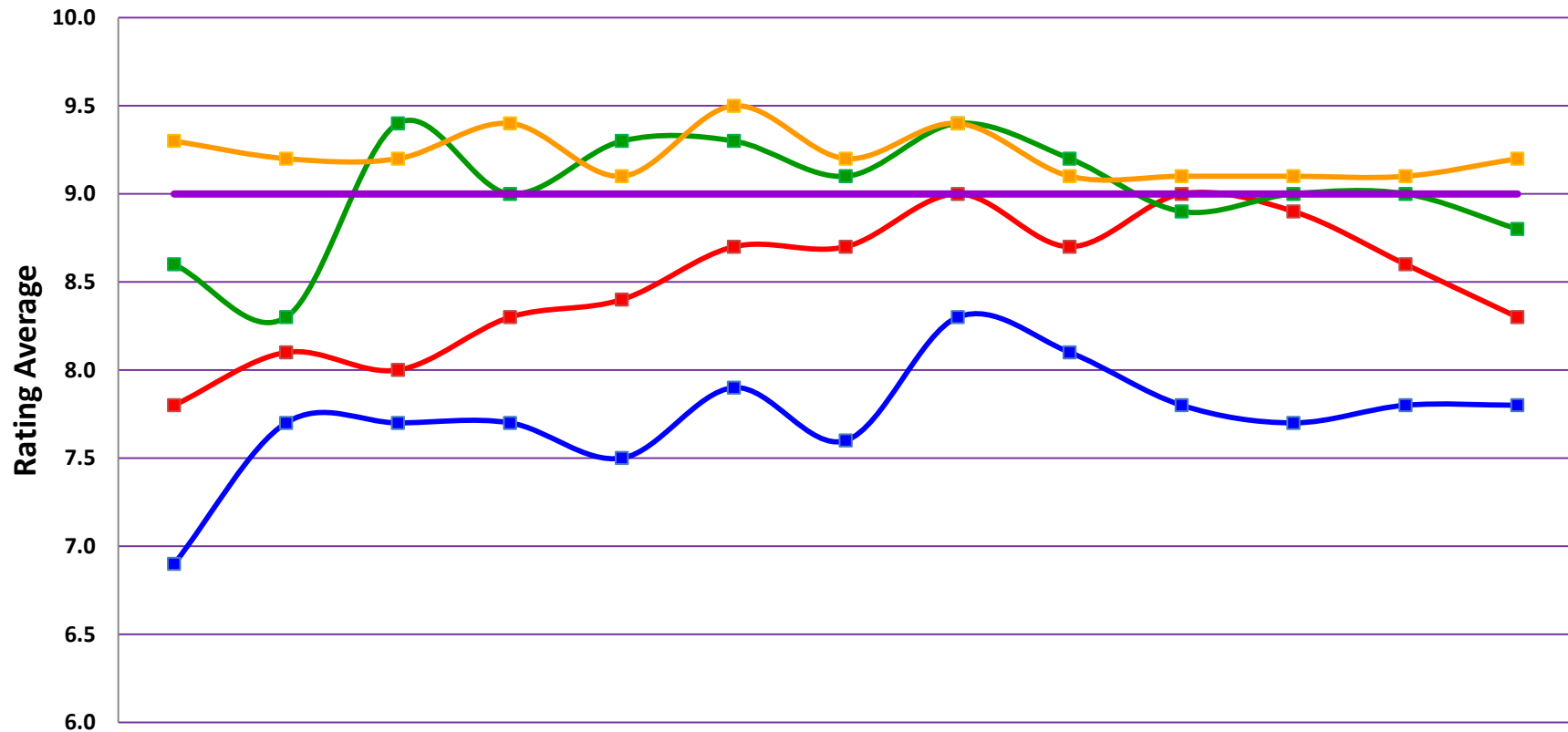
Repair Costs	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	13-Month Period
Blue/Expo Line	\$17,834	\$17,322	\$12,056	\$1,655	\$4,811	\$5,716	\$1,971	\$2,838	\$40,969	\$65,454	\$17,160	\$4,570	\$7,379	\$199,735
Red/Purple Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Green Line	\$0	\$0	\$0	\$0	\$0	\$0	\$5,333	\$0	\$1,205	\$0	\$23	\$0	\$0	\$6,561
Gold Line	\$315	\$0	\$0	\$4,833	\$1,494	\$8,204	\$2,611	\$0	\$1,074	\$1,547	\$1,547	\$0	\$53	\$21,678
Totals	\$18,149	\$17,322	\$12,056	\$6,488	\$6,305	\$13,920	\$9,915	\$2,838	\$43,248	\$67,001	\$18,730	\$4,570	\$7,432	\$227,974

Rail Vehicle Accident Costs - February 2016				
Date	Incident #	Problem Code	Incident Description	Repair Cost
Metro Blue/Expo Line				
2/13/16	2696055	Train vs. Vehicle	A 10-73 was reported at Long Beach Blvd. and Burnet St., SB.	\$ 199
2/21/16	2699041	Train vs. Vehicle	A 10-73 was reported at Olive St. and Washington Blvd.	\$ 5,927
2/22/16	2699359	Train vs. Vehicle	A 10-73 was reported at Normandie Grade Crossing, Track 3.	\$ 949
2/24/16	2700155	Train vs. Object	A 10-71 was reported, object under train at San Pedro Station, SB Track 2.	\$ 304
2/28/16	2701821	Train vs. Object	A 10-71 was reported, contact with shopping cart at Century Grade Crossing, SB Track 2.	\$ -
			MBL & EXPO Total	\$ 7,379
Metro Gold Line				
2/25/16	2700745	Train vs. Object	A 10-71 was reported, unsecured skirt raised up, contacted Figueroa Box entrance chain link, right front skirt torn off from rail vehicle.	\$ 53
			MGOLD Total	\$ 53
			Grand Total	\$ 7,432
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 February 2015-2016

Car Cleanliness Monthly Report



	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Div 11 Blue/Expo	6.9	7.7	7.7	7.7	7.5	7.9	7.6	8.3	8.1	7.8	7.7	7.8	7.8
Div 20 Red/Purple	7.8	8.1	8.0	8.3	8.4	8.7	8.7	9.0	8.7	9.0	8.9	8.6	8.3
Div 22 Green	8.6	8.3	9.4	9.0	9.3	9.3	9.1	9.4	9.2	8.9	9.0	9.0	8.8
Div 21 Gold	9.3	9.2	9.2	9.4	9.1	9.5	9.2	9.4	9.1	9.1	9.1	9.1	9.2
Rail Goal	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0

Service Delivery February 2016

February 2016 - Service Delivery

Blue/Expo Line Fleet Size: 92

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	72	76	106%
Weekend:	36	55	153%
Late Pullouts: 1			
Monthly Mileage:	541,224		

Red/Purple Line Fleet Size: 104

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	74	78	105%
Weekend:	54	72	133%
Late Pullouts: 0			
Monthly Mileage:	565,882		

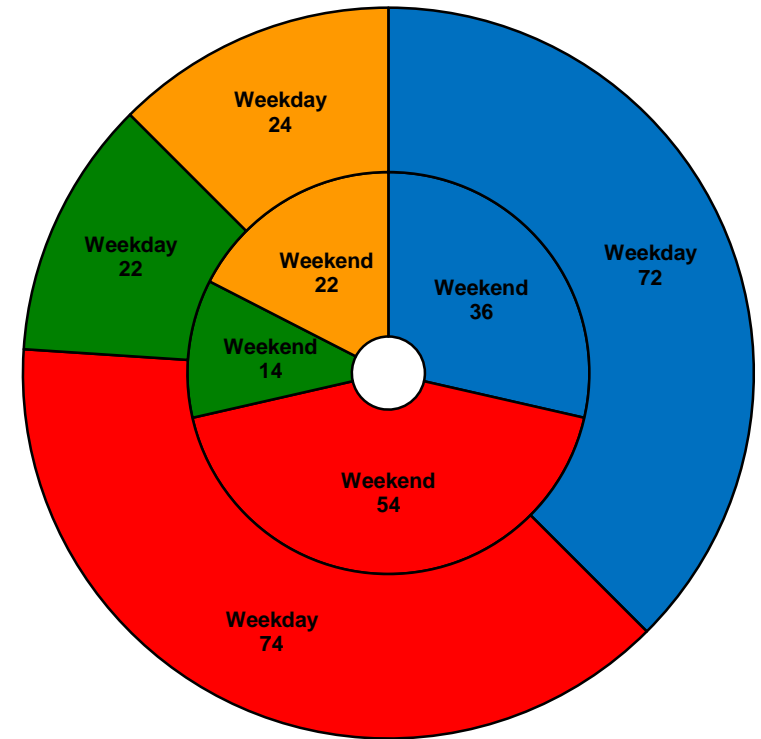
Green Line Fleet Size: 29

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	22	22	100%
Weekend:	14	16	114%
Late Pullouts: 0			
Monthly Mileage:	217,769		

Gold Line Fleet Size: 50

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	24	26	108%
Weekend:	22	24	109%
Late Pullouts: 0			
Monthly Mileage*:	298,423		

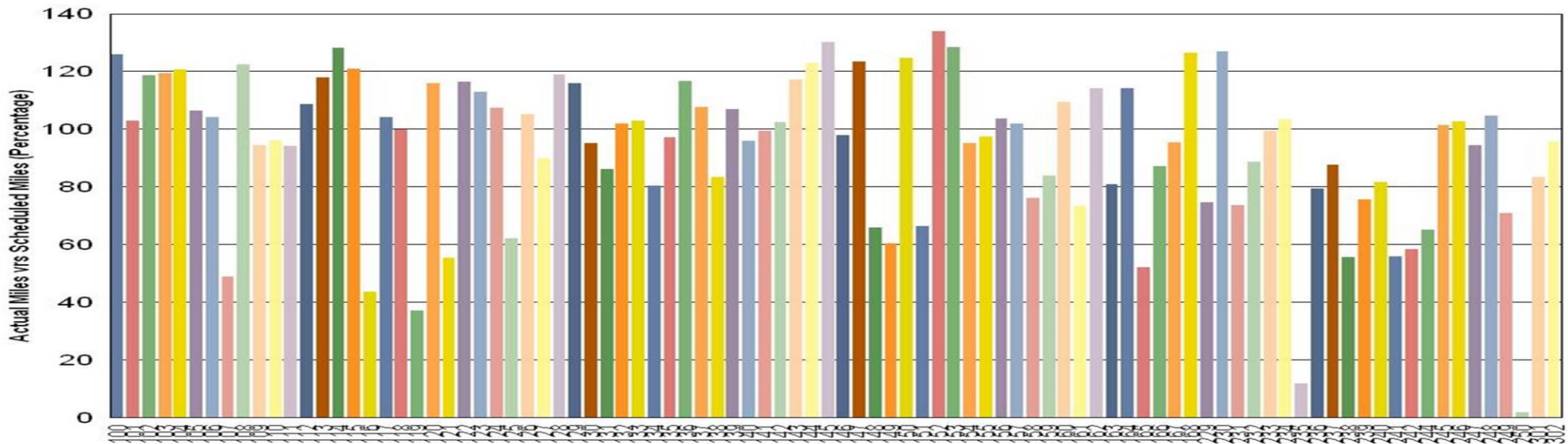
* Gold Line monthly mileage includes Division 21 and 24.



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

Vehicle Utilization February 2016

Metro Blue/Expo Line (92 Cars)



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

Car # 119 Air Hose Replacement and Roof Repair

Car # 235 Held for P2000 Overhaul and Repairs

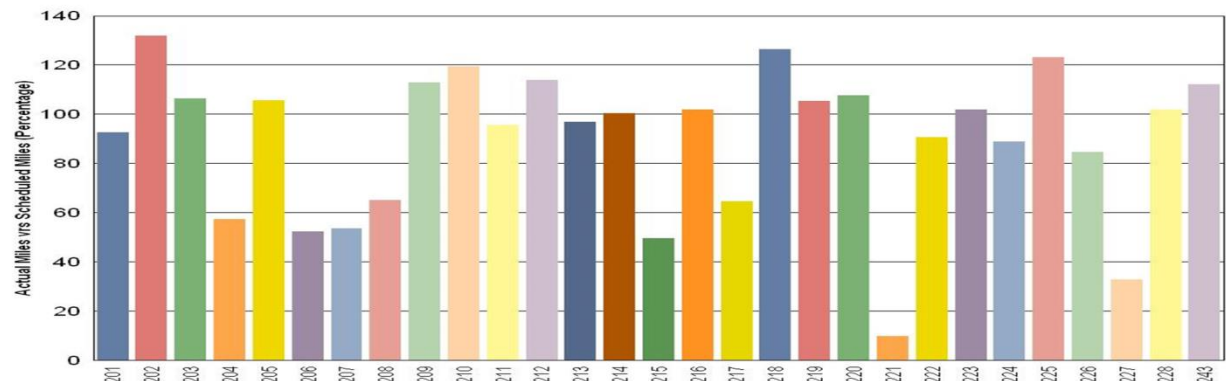
Car # 250 Exterior Rust Abatement Program and Painting

Metro Green Line (29 Cars)

Green Line: The following cars were out of service due to:

Car # 221 90K Inspection, B-end Air Conditioning

Car # 227 90K Inspection, Cracked Passenger Window



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

Vehicle Utilization February 2016

Metro Red/Purple Line (104 Cars)

Red/Purple Line:

The following cars were out of service due to:

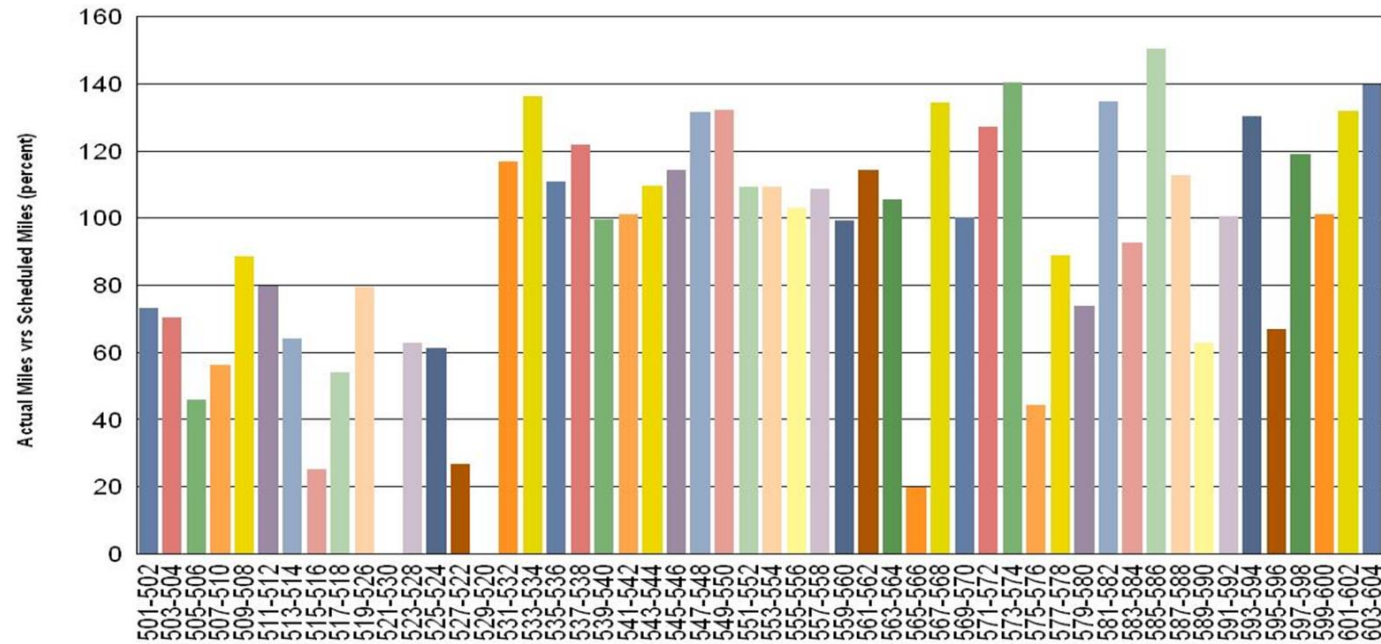
Car # 515-516 Propulsion

Car # 521-530 CB1

Car # 527-522 Open Work Order

Car # 529-520 Waiting on Traction Motors

Car # 565-566 GTO Campaign



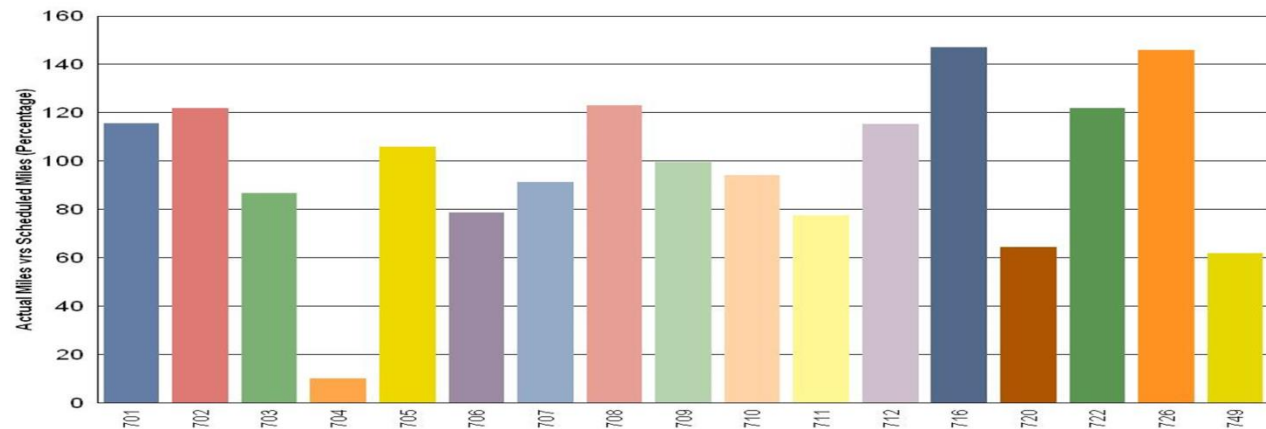
Metro Gold Line (50 Cars)

Gold Line:

The following car was out of service due to:

Car # 704 Wheel Truing

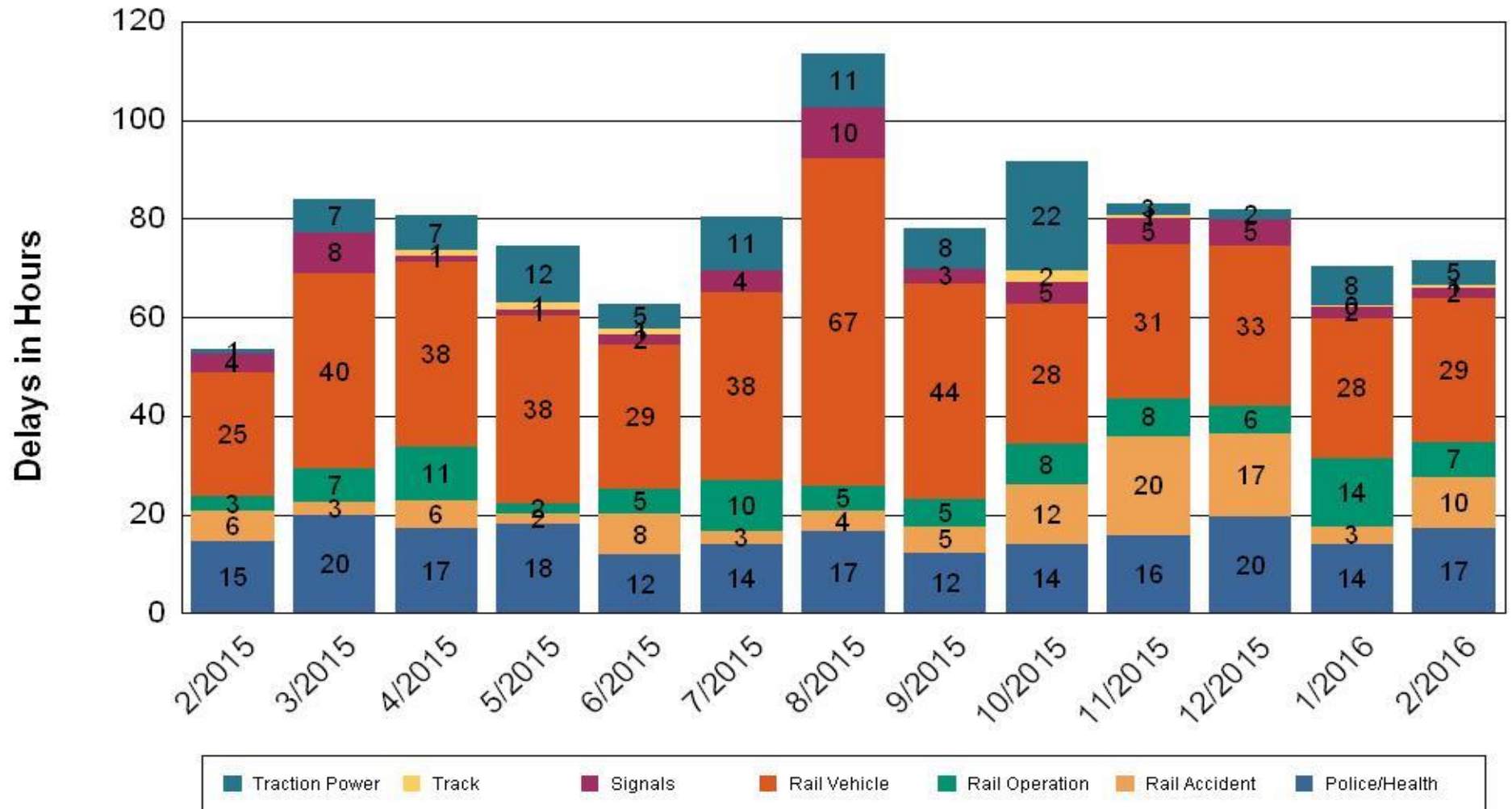
(The Wheel True Machine was down for warranty repair.)



All Train Delays (Hours) February 2015-2016

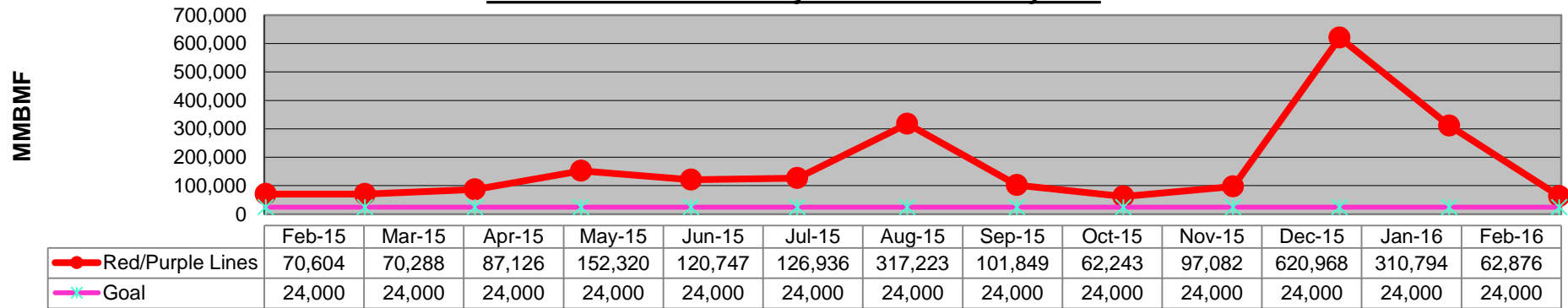
All Train Delays

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

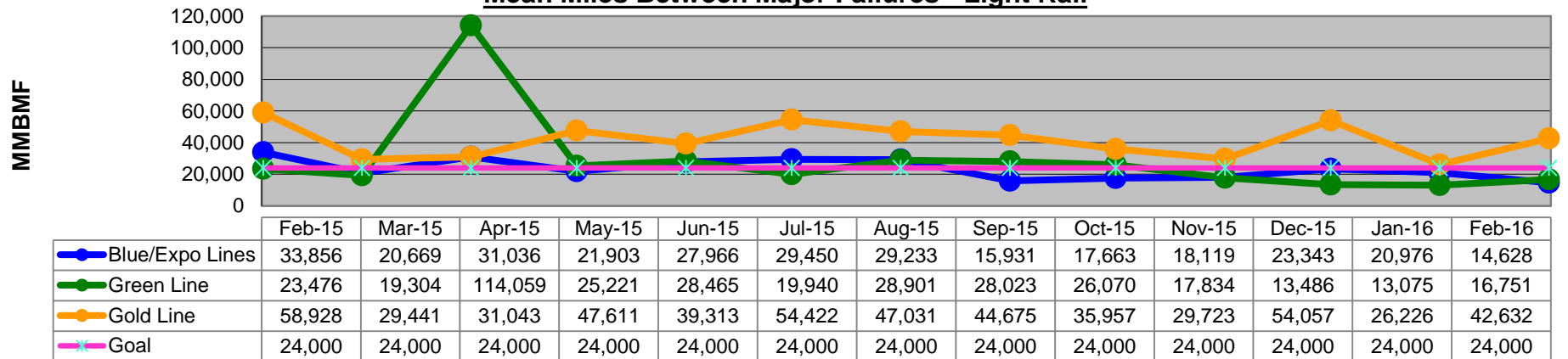


Mean Miles Between Failures (Major) February 2015-2016

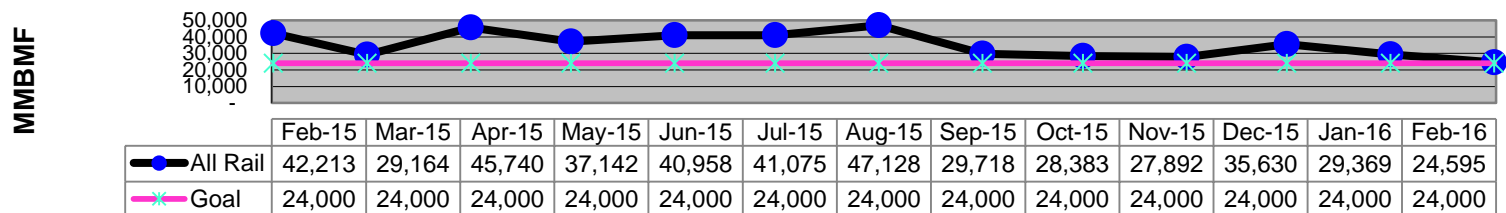
Mean Miles Between Major Failures - Heavy Rail



Mean Miles Between Major Failures - Light Rail



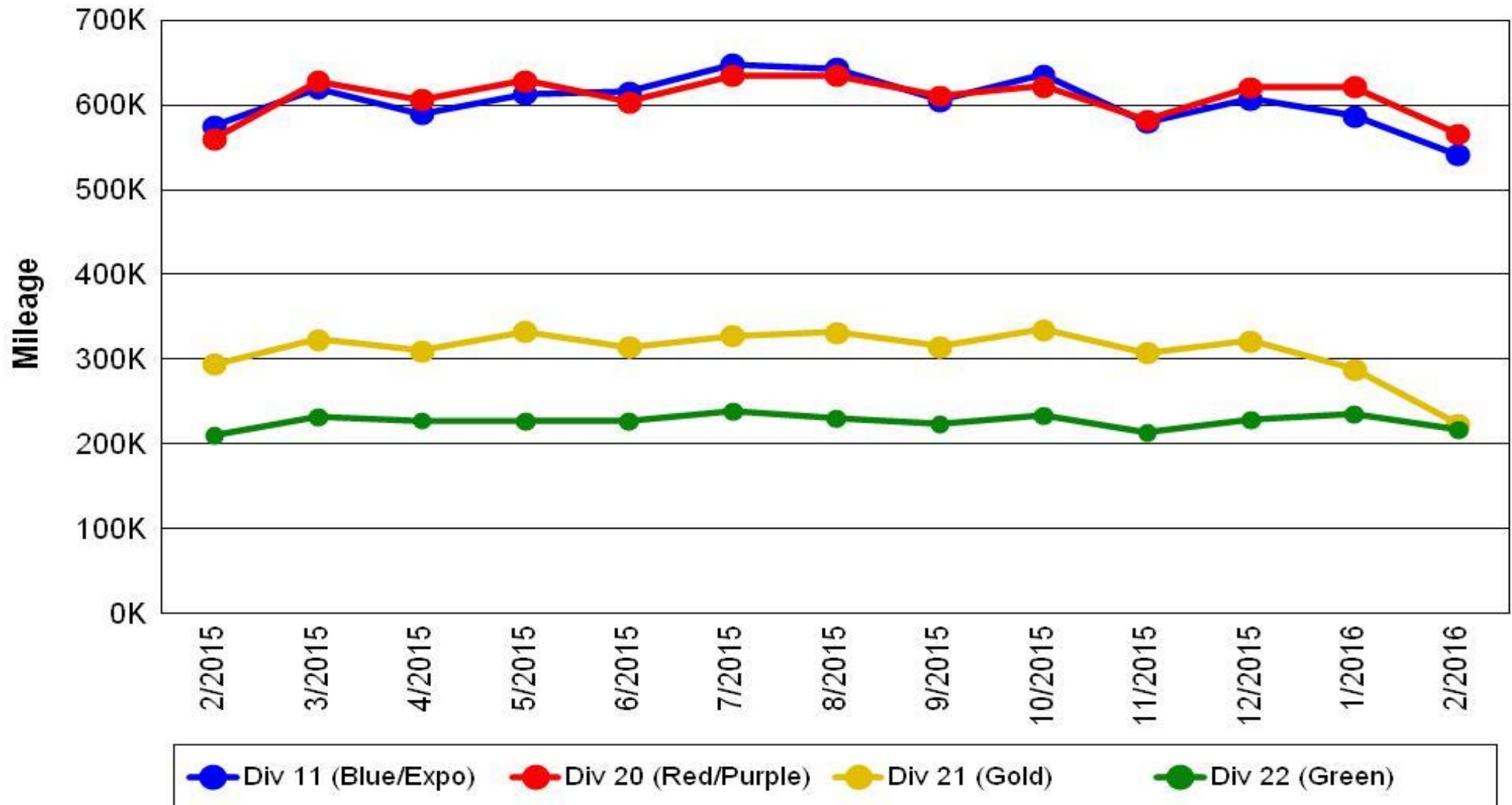
Mean Miles Between Major Failures (all)



Mileage Between Data Range (by month)

February 2015-2016

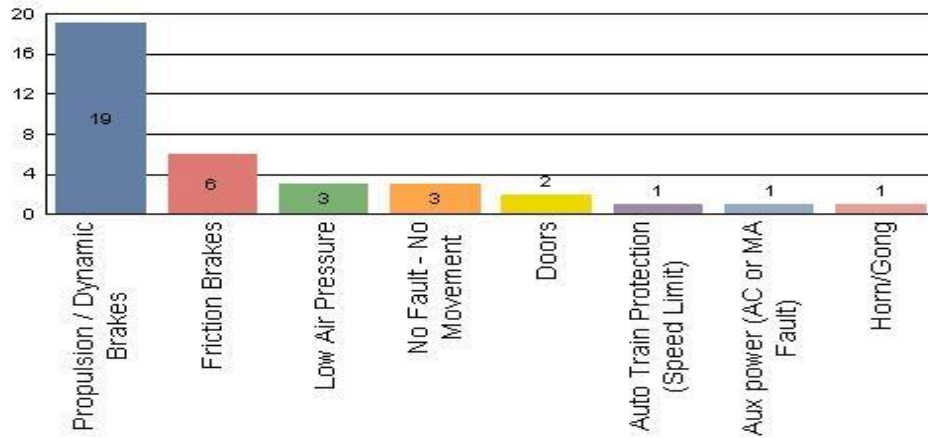
Rail Division Monthly Mileage



Top Incident Categories February 2016

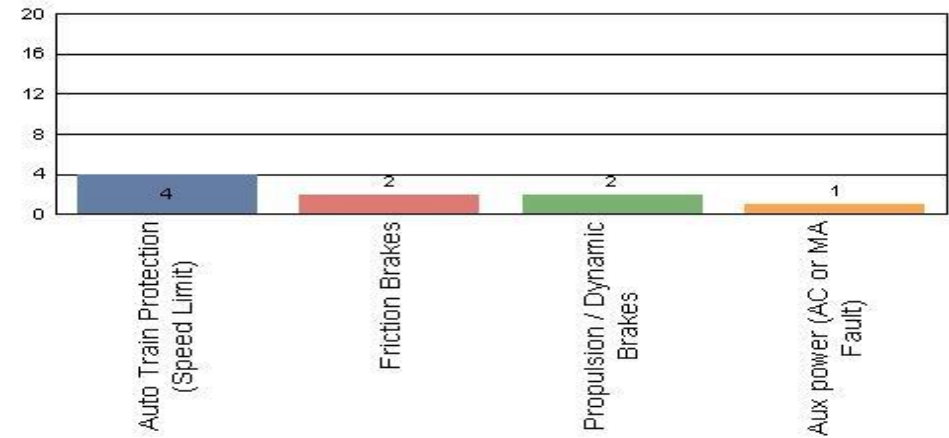
Metro Blue/Expo Line

Top Incident Categories



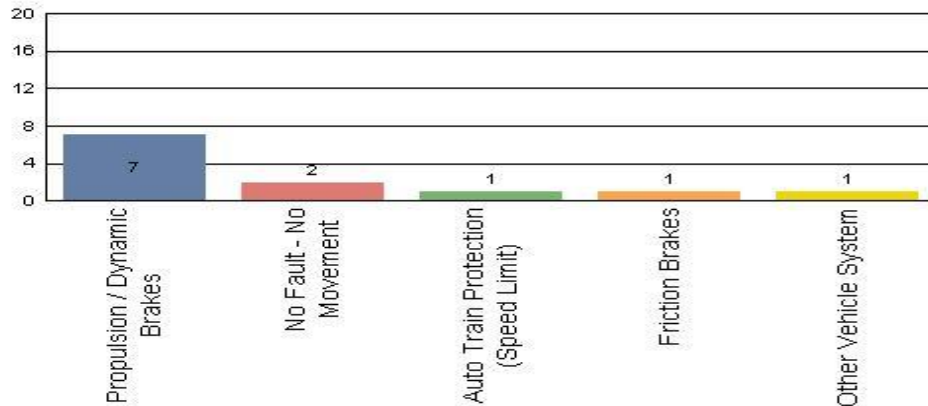
Metro Red/Purple Line

Top Incident Categories



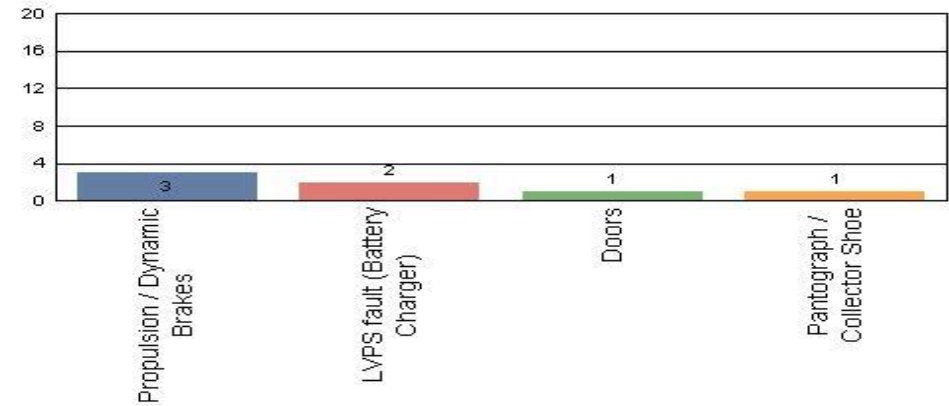
Metro Green Line

Top Incident Categories



Metro Gold Line

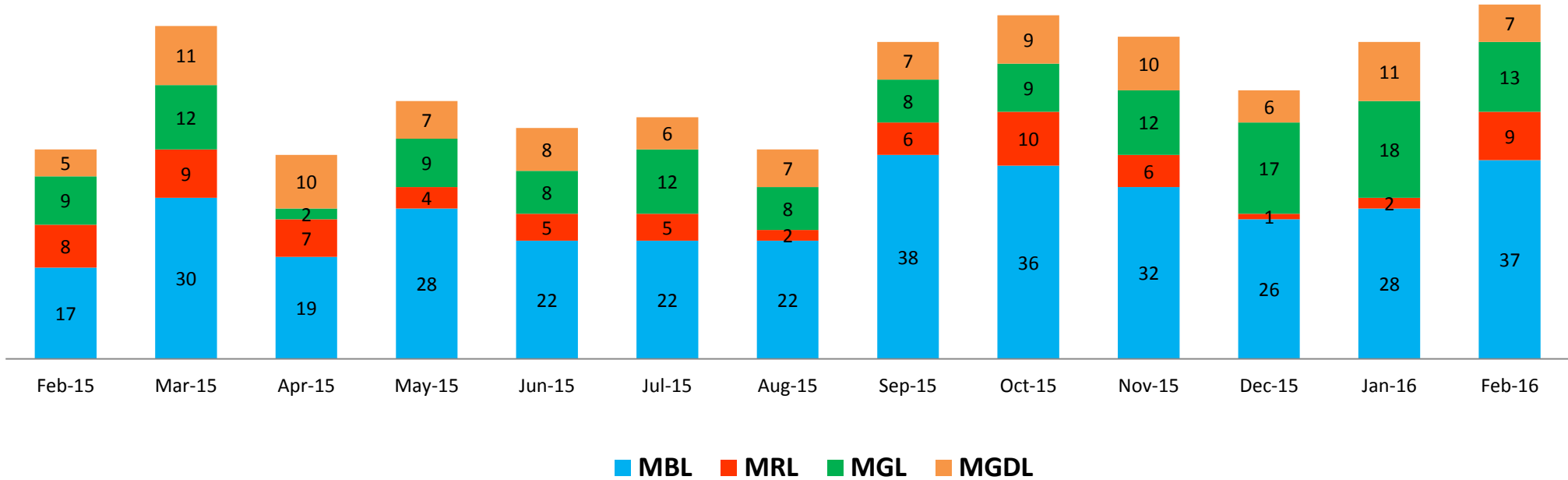
Top Incident Categories



Major Incidents

February 2015-2016

Numbers of Major System Failures (by Line)



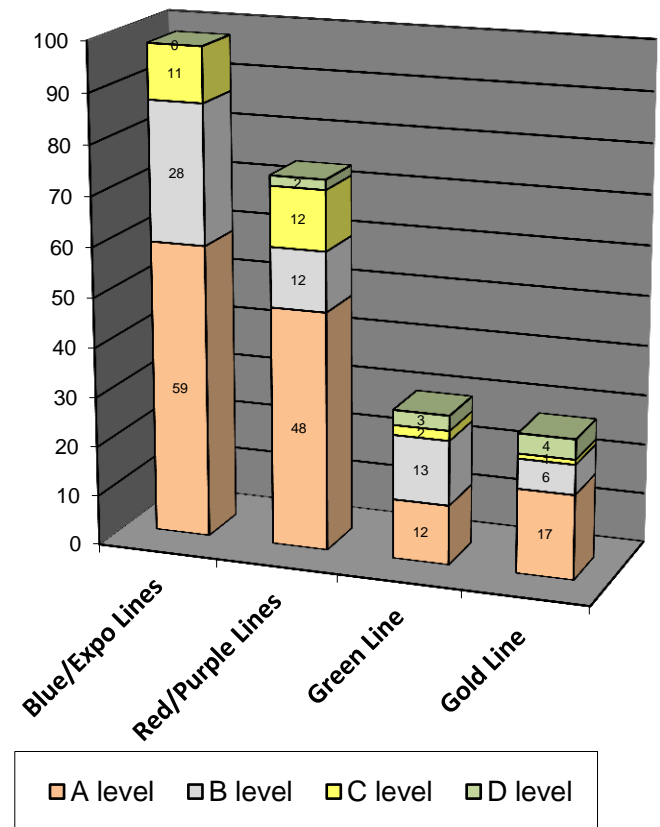
Preventive Maintenance Compliance

February 2015-2016

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

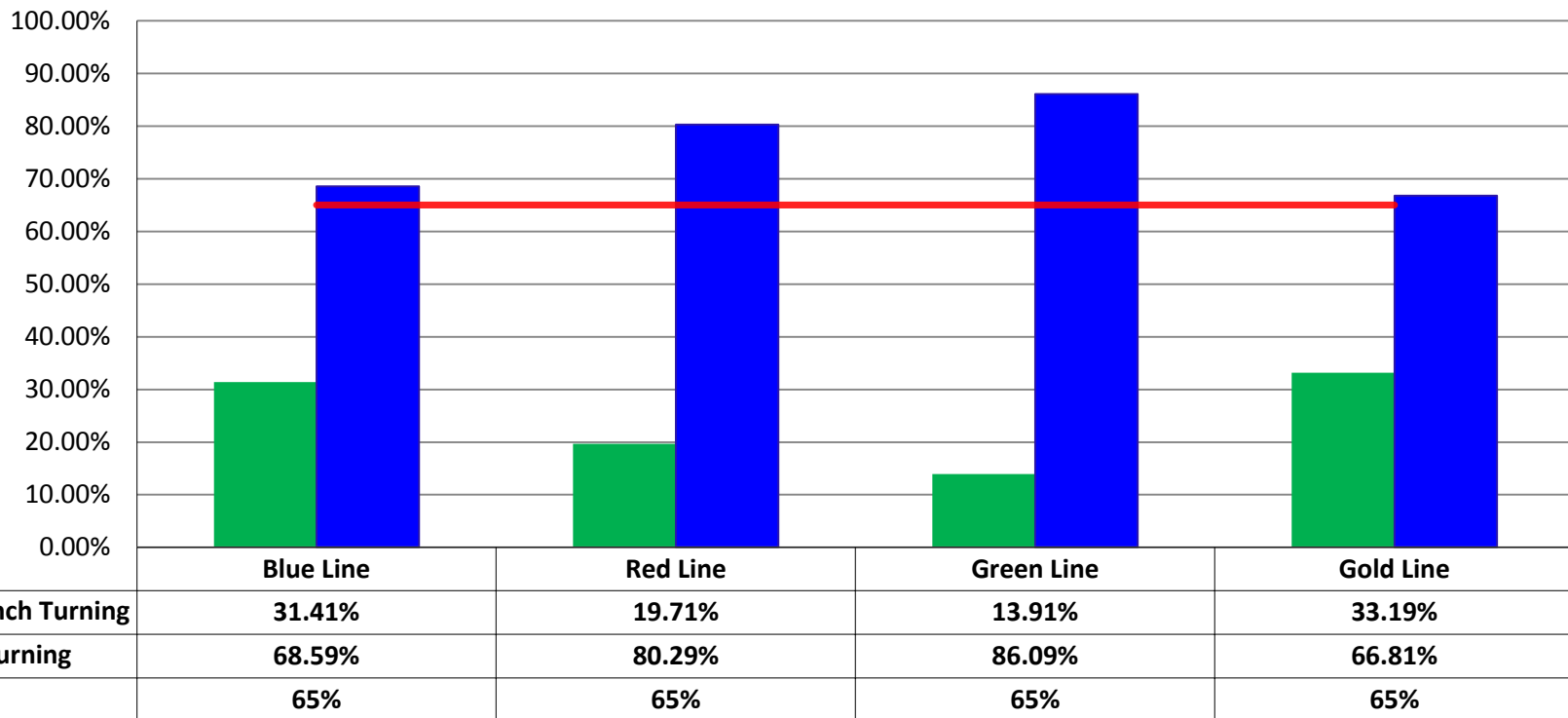
Number of Preventive Maintenance Inspections - February 2016					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	59	28	11	0	98
Red/Purple Lines	48	12	12	2	74
Green Line	12	13	2	3	30
Gold Line	17	6	1	4	28
Totals:	136	59	26	9	230

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 February 2016

RFS - Leader Wrench Turning February 2016



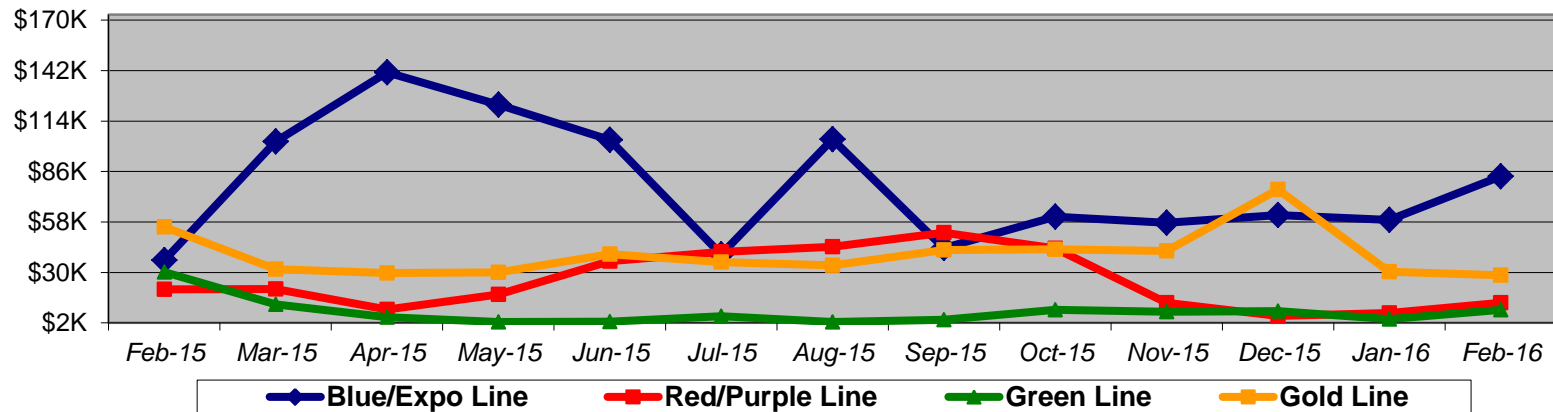
Notes: Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader

Vandalism & Graffiti Report

February 2015-2016

Graffiti Costs

	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	13-Month Period
Blue/Expo Line	\$37K	\$103K	\$141K	\$123K	\$104K	\$40K	\$104K	\$43K	\$61K	\$58K	\$62K	\$59K	\$83K	\$1,017K
Red/Purple Line	\$21K	\$21K	\$9K	\$18K	\$36K	\$41K	\$44K	\$52K	\$43K	\$13K	\$6K	\$7K	\$13K	\$326K
Green Line	\$30K	\$12K	\$5K	\$3K	\$3K	\$6K	\$2K	\$4K	\$9K	\$8K	\$9K	\$4K	\$9K	\$104K
Gold Line	\$55K	\$32K	\$30K	\$30K	\$40K	\$36K	\$34K	\$42K	\$43K	\$42K	\$76K	\$30K	\$28K	\$518K
Totals:	\$143K	\$167K	\$185K	\$173K	\$183K	\$123K	\$185K	\$142K	\$156K	\$121K	\$152K	\$101K	\$134K	\$1,965K



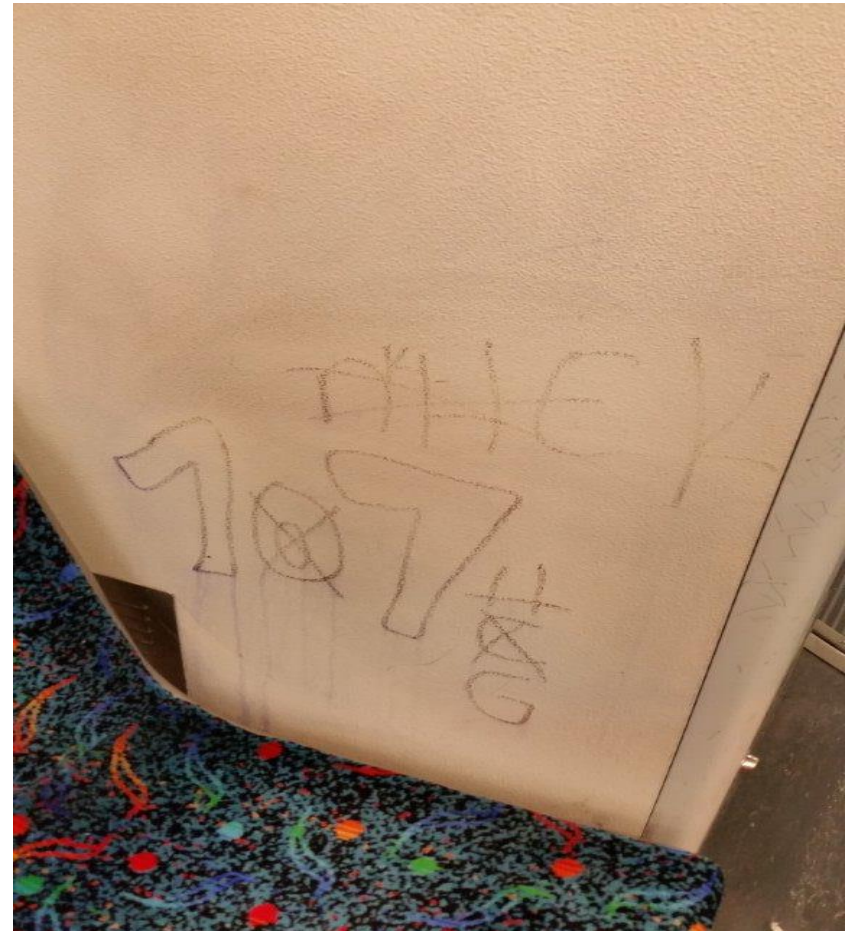
February 2016 Vandalism & Graffiti - All Rail				
	Qty	Labor	Materials	Totals
Windows Replaced	186	\$ 22,302	\$ 28,195	\$ 50,497
Vandal Shields Replaced	1,083	\$ 23,604	\$ 18,975	\$ 42,579
Seats Cleaned	432	\$ 3,305	\$ -	\$ 3,305
Seats Inserts Replaced	148	\$ 4,663	\$ 5,062	\$ 9,725
Graffiti Removal - Other	668	\$ 11,165	\$ 9,744	\$ 20,909
Repainting Panels	228	\$ 7,182	\$ -	\$ 7,182
Totals	2,745	\$ 72,221	\$ 61,976	\$ 134,197

Graffiti Pictures February 2016

Blue Line

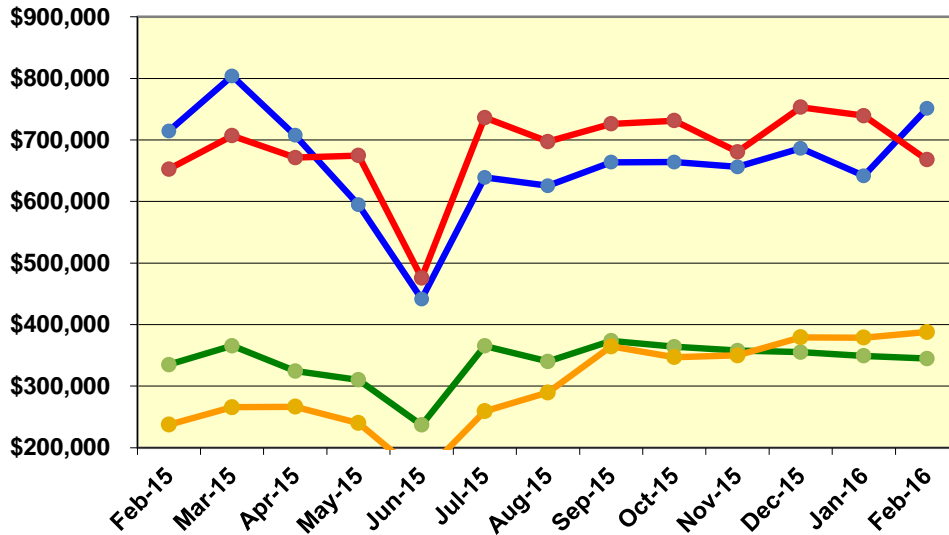


Green Line

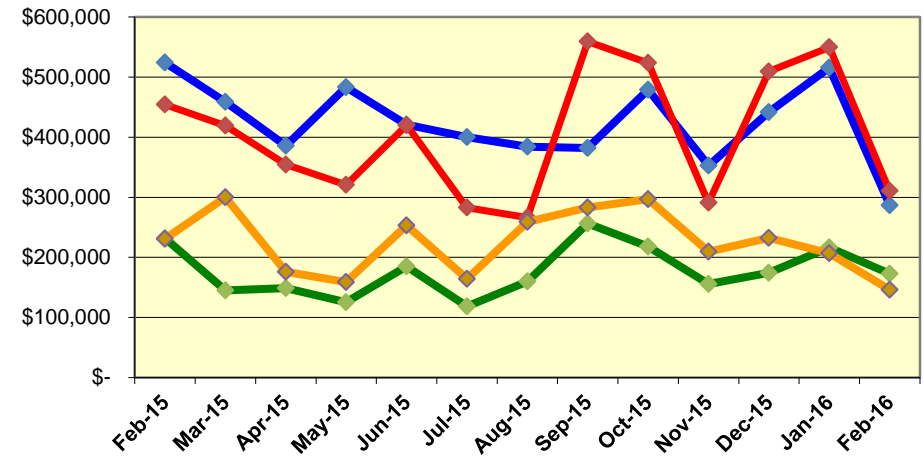


Labor and Material Costs February 2015-2016

Labor Costs



Material Costs



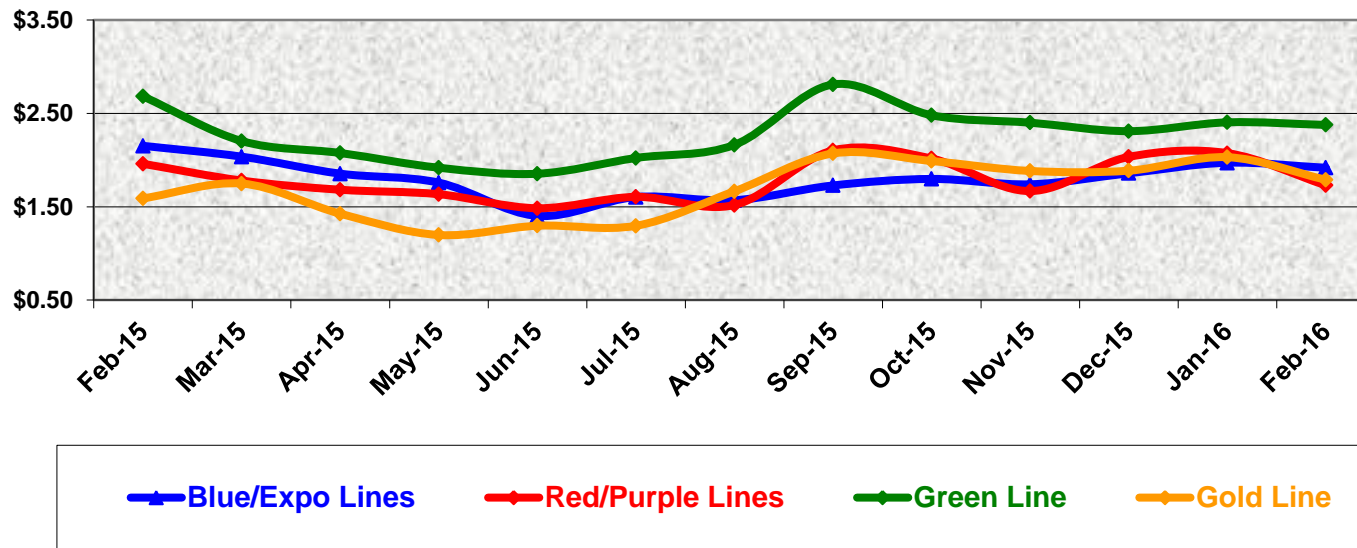
	Feb-15	Mar-15	Apr-15	May-15	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Labor Costs													
Blue/Expo Lines	\$ 714,349	\$ 803,757	\$ 707,348	\$ 594,550	\$ 441,364	\$ 638,967	\$ 625,577	\$ 663,752	\$ 663,965	\$ 656,195	\$ 686,227	\$ 641,613	\$ 750,961
Red/Purple Lines	\$ 652,406	\$ 706,794	\$ 671,084	\$ 674,681	\$ 475,810	\$ 736,269	\$ 697,095	\$ 726,107	\$ 731,128	\$ 680,629	\$ 753,216	\$ 739,336	\$ 667,772
Green Line	\$ 334,919	\$ 365,457	\$ 324,550	\$ 310,181	\$ 236,931	\$ 365,229	\$ 340,115	\$ 373,698	\$ 363,868	\$ 357,622	\$ 355,057	\$ 349,152	\$ 344,701
Gold Line	\$ 237,438	\$ 265,835	\$ 266,529	\$ 240,056	\$ 154,498	\$ 259,228	\$ 289,571	\$ 364,544	\$ 347,072	\$ 350,038	\$ 379,336	\$ 378,751	\$ 387,820
Totals	\$ 1,939,112	\$ 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

	Feb-15	Mar-15	Apr-15	May-15	Jun-15*	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Material Costs													
Blue/Expo Lines	\$ 524,157	\$ 458,588	\$ 385,794	\$ 483,368	\$ 421,088	\$ 400,315	\$ 384,178	\$ 382,274	\$ 478,960	\$ 352,710	\$ 441,523	\$ 515,933	\$ 286,531
Red/Purple Lines	\$ 454,326	\$ 419,099	\$ 354,492	\$ 320,754	\$ 420,042	\$ 282,744	\$ 266,405	\$ 559,179	\$ 523,558	\$ 290,721	\$ 509,448	\$ 549,576	\$ 310,489
Green Line	\$ 231,562	\$ 144,927	\$ 148,839	\$ 125,054	\$ 185,086	\$ 118,559	\$ 159,916	\$ 256,185	\$ 217,820	\$ 155,914	\$ 174,269	\$ 216,535	\$ 172,625
Gold Line	\$ 230,896	\$ 300,170	\$ 175,922	\$ 159,016	\$ 253,284	\$ 163,954	\$ 258,793	\$ 282,958	\$ 296,684	\$ 209,546	\$ 232,338	\$ 206,856	\$ 145,891
Totals	\$ 1,440,941	\$ 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

Cost Per Mile February 2015-2016

Cost per mile:	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Average
Blue/Expo Lines	\$2.15	\$2.04	\$1.85	\$1.76	\$1.40	\$1.60	\$1.57	\$1.73	\$1.80	\$1.74	\$1.86	\$1.97	\$1.92	\$1.80
Red/Purple Lines	\$1.96	\$1.78	\$1.68	\$1.63	\$1.48	\$1.61	\$1.52	\$2.10	\$2.02	\$1.67	\$2.03	\$2.07	\$1.73	\$1.79
Green Line	\$2.68	\$2.20	\$2.08	\$1.92	\$1.85	\$2.02	\$2.16	\$2.81	\$2.48	\$2.40	\$2.31	\$2.40	\$2.38	\$2.28
Gold Line	\$1.59	\$1.75	\$1.43	\$1.20	\$1.30	\$1.30	\$1.67	\$2.07	\$1.99	\$1.88	\$1.89	\$2.03	\$1.79	\$1.68

Cost per Mile



ATU Absences vs. Overtime

February 2016

ABSENCE TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
AWP-ABSENT W/O PERMISSION	8	56	19	-	-	83
BER-BEREAVEMENT	-	40	24	8	-	72
CTO-COMPENSATORY TIME OFF	324	588	125	176	88	1,300
CUT-EMPLOYEE LEAVES EARLY	1	0	-	-	-	1
DSL-DISABILITY LEAVE/LONG	1,176	672	-	376	80	2,304
EFH-EMG. FLOAT HOL.	56	56	40	16	8	176
ETO-EXCUSED TIME OFF	116	46	8	11	13	194
FMI-FAM IND INJURY	80	-	-	26	168	274
FML-FAMILY CARE LEAVE	312	713	98	274	72	1,468
FMS-FAMILY LEAVE SICK	110	198	8	8	-	324
HLF-HOLIDAY FLOATING	312	296	56	72	40	776
II-INDUSTRIAL INJURY	16	-	8	-	-	24
IIR-INDUS INJURY -REOCCUR.	-	168	-	-	-	168
IS-INVESTIGATIVE SUSPENSION	-	56	-	-	-	56
JUR-JURY DUTY	-	8	-	-	-	8
LC1-LABOR CODE 233	460	385	160	131	56	1,191
LTI-OCCPIL/LONGTRM INJ LEAVE	168	248	-	-	-	416
MLN-MILITARY ABSENCE-UNPAID	8	-	-	-	-	8
OWP-OFF WITH PERMISSION	-	2	-	-	-	2
RTO-REQUESTED TIME OFF-NO PAY	135	-	-	-	8	143
SCK-SICK PAY	288	128	45	118	96	674
SCW-SICK WITHOUT PAY	32	40	133	-	32	238
SUS-DISCIPLINARY SUSPENSION	-	-	-	24	-	24
TAR-TARDY	1	1	5	1	0	8
VAC-VACATION	908	712	351	256	108	2,335
VAS-VACATION WHILE SICK	-	21	-	-	-	21
TRAINING	137	837	288	832	1,408	3,502
Total Absence Hours	4,647	5,270	1,367	2,328	2,178	15,790
ATU Number of Work Force (budget)	125	104	46	48	-	323
Full Work Force hours/month	21,663	18,023	7,972	8,318	-	55,976
Absence as a % of Work Force	21%	29%	17%	28%	N/A	28%

OVERTIME TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
CTB-COMPENSATORY TIME TO BANK	149	105	47	33	-	335
OTP-PREM OVERTIME	3,320	4,036	1,333	150	4	8,843
WLO-Worked Lunch Overtime	149	161	83	24	1	418
Total Overtime Hours	3,619	4,303	1,462	206	5	9,595
Overtime as a % of Work Force	17%	24%	18%	2%	N/A	17%

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



Metro

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

RFS Instruction Department Activities

February 2016

LRV Training classes completed during the month of February 2016

Description	Course Hours	Student Count	Training Hours
Blue & Expo Line Training - (P865/2020 & P2000 LRVs):			
ANNUAL MAINTENANCE SAFETY AWARENESS	1.5	27	40.5
WAYSIDE WORKER PROTECTION	4	24	96
Total Blue Line Training (Hours):			137
Light Rail Training [In Monrovia (P3010 LRVs)]:			
RFS KINKISHARYO EVENT RECORDER & PASS. INFO DSPLY	8	11	88
RFS KINKISHARYO FRICTION BRAKES AND CTRLS	32	11	352
RFS KINKISHARYO LIGHTING	8	11	88
RFS KINKISHARYO AUXILIARY POWER SUPPLY	40	11	440
RFS KINKISHARYO DOOR SYSTEMS	24	11	264
RFS KINKISHARYO PASSENGER COUNTING	16	11	176
Total Light Rail Training (Hours):			1408
Gold Line Training (P2550 LRVs):			
RFS KINKISHARYO INTRO & MAINLINE RESPONSE	16	40	640
RFS ANSALDOBREDA 2550 H.V.A.C.	16	4	64
RFS ANSALDOBREDA 2550 A.T.P. & T.W.C.	32	4	128
Total Gold Line Training (Hours):			832
Green Line Training (P2000 LRVs):			
ANNUAL MAINTENANCE SAFETY AWARENESS	1.5	48	72
RFS SIEMENS 2000 CARBODY	24	5	120
RFS SIEMENS 2000 US&S ATP/ATO/TWC	48	2	96
Total Green Line Training (Hours):			288

Total RFS Instruction for the month of February 2016 (Hours): 3,502

Core Vehicle Training Completed: BLUE GOLD RED GREEN

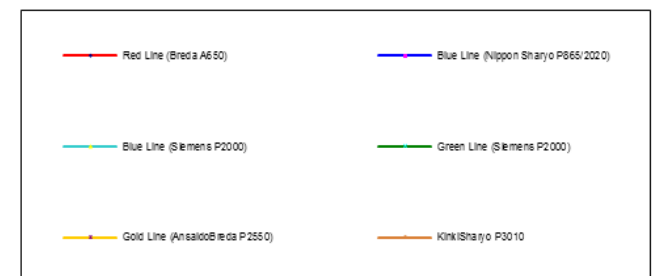
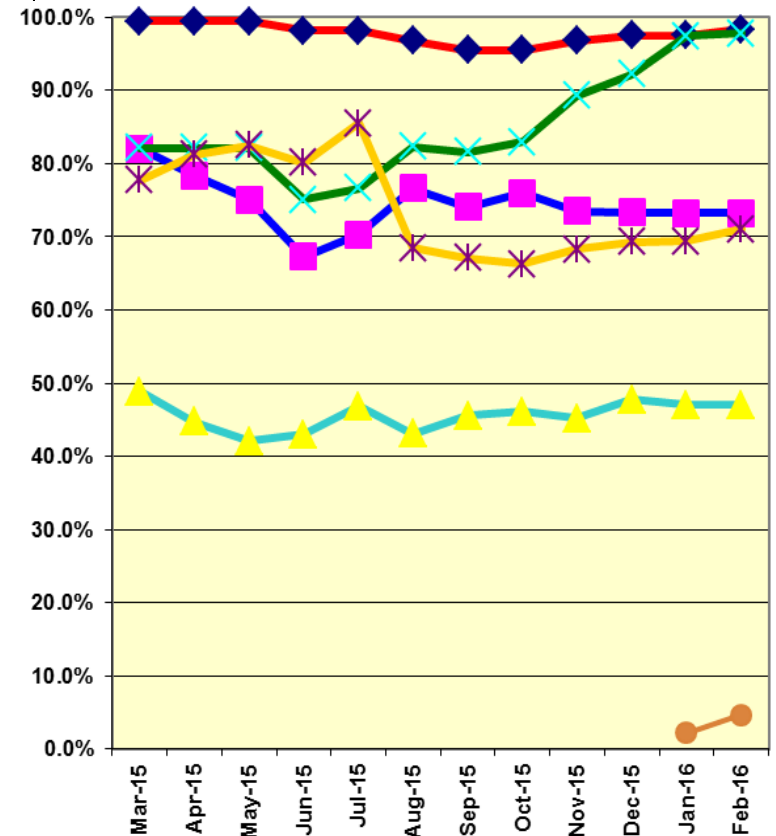
Percentage of core vehicle training complete: 73.2% 71.0% 97.5% 97.4%

Siemens P2000 training complete: 47.0% N/A N/A N/A

KinkiSharyo P3010 training complete: 4.7% N/A N/A

Average Specialist Rail Experience Level in Years: 11.0 6.8 12.0 9.6

Core Training Completed



RFS Instruction Department Activities

February 2016

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

Description	Course Hours	Student Count	Training Hours
<u>Red Line Training (Breda A650 HRV):</u>			
RFS BRED A 650 TICU	24	4	96
ANNUAL MAINTENANCE SAFETY AWARENESS	1.5	46	69
RFS BRED A 650 ATO SHOP TESTER	24	7	168
RFS BRED A 650 SIGNALRAIL ATO	40	7	280
RFS BRED A 650 GRS A.T.P.	56	4	224

Total Red Line Training (Hours): 837

<u>Other Instruction Activities</u>	C	A	TS	Total
A650 Curriculum, Administrative, and Technical Support	8	8	16	32
P865\P2020 Curriculum, Administrative, and Technical Support	68	20	48	136
P2000 Curriculum, Administrative, and Technical Support	80	32	120	232
P2550 Curriculum, Administrative, and Technical Support	8	8	16	32
P3010 Curriculum, Administrative, and Technical Support	0	2	16	18
Instructor Vacations and Holidays				40
Transportation Learning Center Curriculum				2

Total Other Instruction Activities 492