

# Rail Fleet Services Monthly Report May 2014



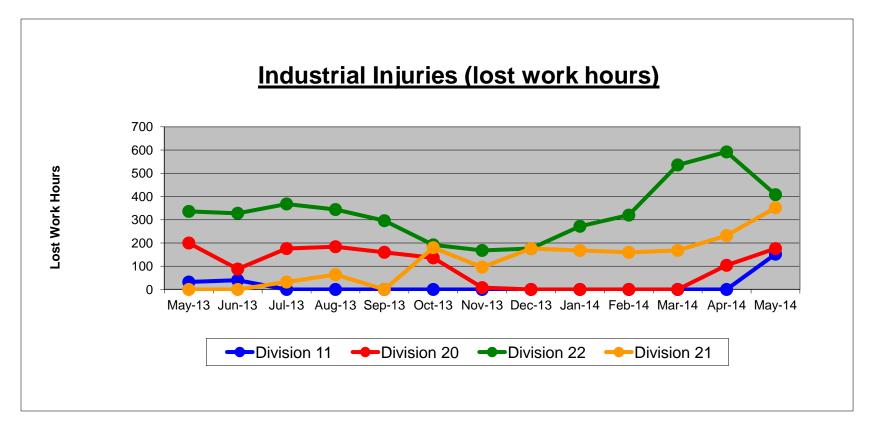
### **Table of Contents**

•	Safety		
	- Industrial Injuries	Page	3
	- Rail Vehicle Accidents & Major Incidents	Page	4
•	Customer Service		
	- Service Delivery – AM/PM Pull-Outs	Page	5
	- Vehicle Utilization - Blue Line & Green Line	Page	6
	- Vehicle Utilization - Red Line & Gold Line	Page	7
	- All Train Delay Incidents	Page	8
	- Mean Miles Between Failures (Major)	Page	9
	- Mileage Between Data Range (by month)	Page	10
•	Business Processes		
	- Top Incident Categories	Page	11
	- Major Incidents	Page	12
	- Preventive Maintenance Compliance	Page	13
	- RFS Wrench Turning	Page	14
•	Finance		
	- Vandalism & Graffiti Costs	Page	15
	- Graffiti Pictures	Page	16
	- Labor & Material Costs	Page	17
	- Cost per mile	Page	18
	- Absence vs. Overtime	Page	19
•	Engineering		
	- Rail Vehicle Engineering Project Summary	Page	20-23
•	Quality Assurance		
	- Warranty Program Projects Summary	Page	24
•	Growth		
	- RFS Instruction Department Activities	Page	25



## Industrial Injuries – Lost Work Hours May 2014

	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	13-Month Period
Division 11	32	40	0	0	0	0	0	0	0	0	0	0	152	224
Division 20	200	88	176	184	160	136	8	0	0	0	0	104	176	1,232
Division 22	336	328	368	344	296	192	168	176	272	320	536	592	408	4,336
<b>Division 21</b>	0	0	32	64	0	180	96	176	168	160	168	232	352	1,628
Totals	568	456	576	592	456	508	272	352	440	480	704	928	1,088	7,420





## Rail Vehicle Accidents & Major Incidents May 2014

Repair Costs	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	13-Month Period
Blue/Expo Line	\$11,700	\$4,926	\$14,951	\$2,338	\$3,700	\$11,475	\$13,838	\$0	\$8,370	\$15,618	\$13,690	\$72,961	\$9,463	\$183,030
Red/Purple Line	\$0	\$0	\$0	\$1,358	\$0	\$0	\$0	\$0	\$0	\$0	\$356	\$0	\$0	\$1,714
Green Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,008	\$0	\$0	\$0	\$0	\$0	\$1,008
Gold Line	\$261	\$8,220	\$0	\$537	\$0	\$0	\$0	\$0	\$0	\$0	\$714	\$0	\$0	\$9,732
Totals	\$11,961	\$13,146	\$14,951	\$4,233	\$3,700	\$11,475	\$13,838	\$1,008	\$8,370	\$15,618	\$14,760	\$72,961	\$9,463	\$195,484

	Rail Vehicle Accident Costs - May 2014												
Date	Incident #	Problem Code	Incident Description	(	Cost								
Metro Blue/Ex	cpo Line												
5/8/14	2453986	Train vs. Object	A 10-71 was reported at Griffith and Washington, Track 2 Southbound.	\$	683								
5/16/14	2457197	Train vs. Object	A 10-71 was reported at Firestone station, broken windshield.	\$	893								
5/21/14	2458957	Train vs. Vehicle	A 10-73 was reported at Washington, Track 2 Southbound.	\$	1,134								
5/21/14	2459128	Train vs. Vehicle	A 10-73 was reported at Washington and Long Beach.	\$	-								
5/25/14	2460311	Train vs. Vehicle	A 10-73 was reported, accident at USC Watt way SB on track.	\$	6,123								
5/27/14	2460948	Train vs. Vehicle	A 10-73 was reported at Washington and Los Angeles, Track 2 Southbound.	\$	630								
			Grand Total	\$	9,463								
	(10-71) = Train	vs. Object, (10-72) = Train	vs. Pedestrian, (10-73) = Train vs. Vehicle (10-74) = Train vs. MTA Vehicle, (10-75) = Derailmen	t									

**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.



### Service Delivery May 2014

### May 2014 - Service Delivery

### **Blue/Expo Line Fleet Size: 92**

Pull Out	Vehicles Required	Average Available	<u>% Up (Down)</u>
Weekday:	78	78	100%
Weekend:	60	65	108%

Late Pullouts: 3\*

Monthly Mileage: 653,769

### Red/Purple Line Fleet Size: 104

Pull Out	Vehicles Required	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	74	81	109%
Weekend:	54	69	128%

Late Pullouts: 0\*

Monthly Mileage: 653,492

### **Green Line Fleet Size: 29**

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

Late Pullouts: 0\*

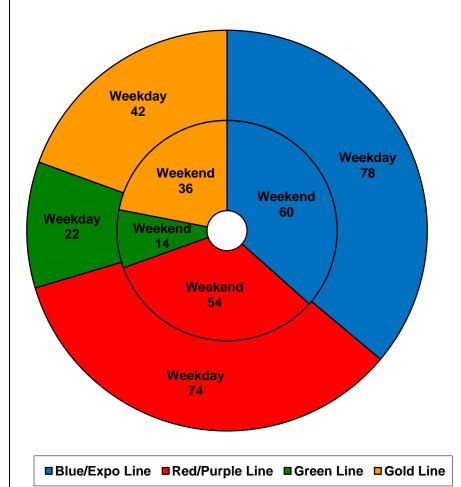
Monthly Mileage: 231,836

### **Gold Line Fleet Size: 50**

Pull Out	Vehicles Required	Average Available	% Up (Down)
Weekday:	42	43	102%
Weekend:	36	41	114%
Late Pulloute: 0*			

Late Pullouts: 0\*

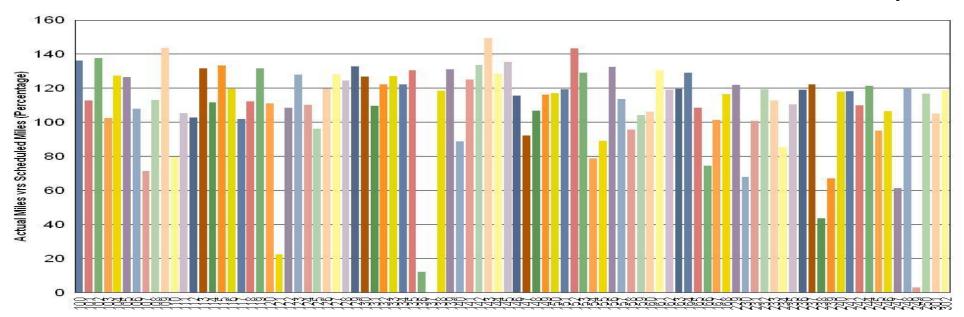
Monthly Mileage: 334,815





## Vehicle Utilization May 2014

### Metro Blue/Expo Line



### **Blue/Expo Line:**

Car # 121 Out of service for Exterior Paint, Interior Graffiti Refurbishment and seat removal program / Overhaul.

Car # 136 Out of service for troubleshooting and repair due to repeat failures causing multiple delays on the mainline.

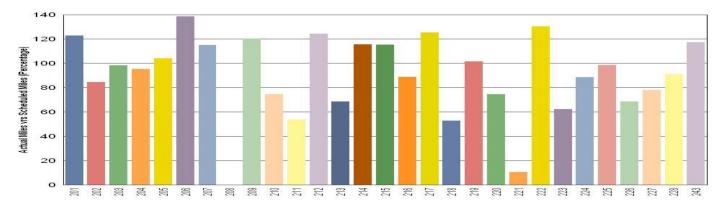
Car # 137 Out of service due to major accident repair.

Car # 249 Out of service for troubleshooting and repair due to repeat failures causing multiple delays on the mainline.

### **Metro Green Line**

### Green Line: Car # 208 & 221 On hold for articulation cables.





Page 6

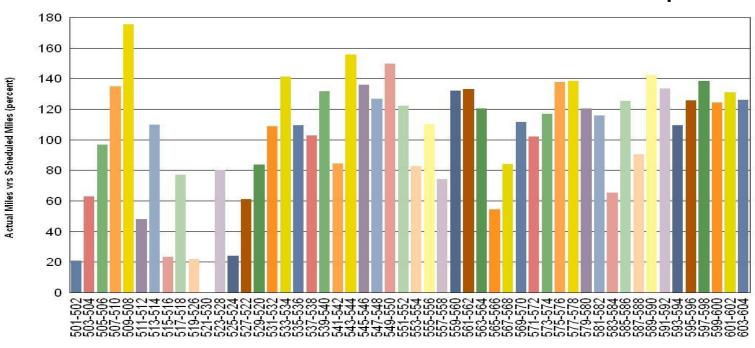
## Vehicle Utilization May 2014

### **Metro Red/Purple Line**

### Red/Purple Line: The following cars were out of service due to:

Car # 501-502 HVAC Project and Emergency Brake Application issue Car # 515-516 22.5K inspection and repair work orders Car # 519-526 Propulsion issue Car# 521-530 Floor replacement project

Car# 525-524 Propulsion issue

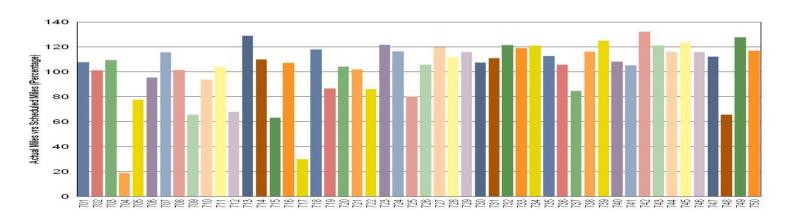


### **Metro Gold Line**

### **Gold Line:**

Car # 704 Out of service due to repeated ATP failure.
Car # 717 Out of service due to melted wiring creating repair difficulties.

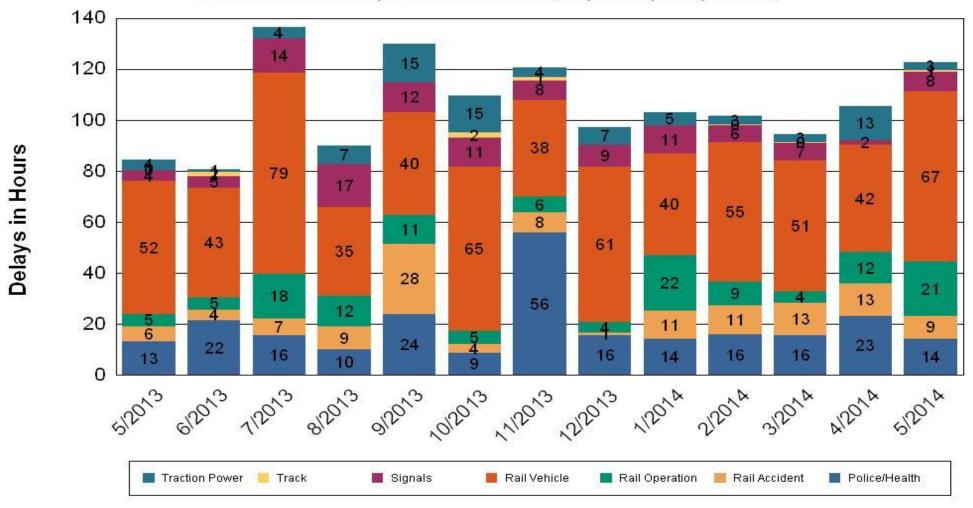




## All Train Delay (Hours) May 2014

### **All Train Delays**

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



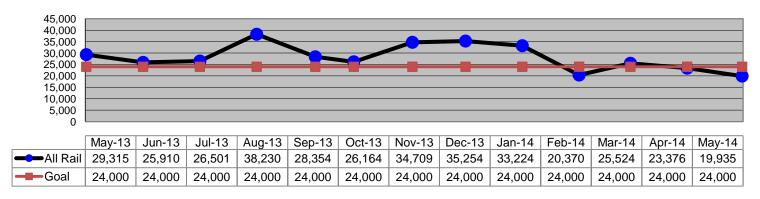


### Mean Miles Between Failures (Major) Year to Date – May 2014

### Mean Miles Between Major Failures (by line) 100,000 90,000 80,000 MMBMF 70,000 60,000 50,000 40,000 30,000 20,000 10,000 Jul-13 May-13 Jun-13 Aug-13 Sep-13 Oct-13 Nov-13 Dec-13 Jan-14 Feb-14 Mar-14 Apr-14 May-14 Blue/Expo Lines 25,783 17,082 23,591 30,773 19,332 17,764 21,123 25,328 23,589 11,929 17,769 13,668 9,340 71,293 Red/Purple Lines 63,886 56,770 39,539 83,229 63,847 83,821 63,627 80,905 63,798 49,520 55,687 93,356 Green Line 14,742 25,412 19,703 14,712 18,988 12,516 28,350 16,495 25,856 17,688 15,504 15,172 28,980 Gold Line 27,296 25,272 23,454 83,320 41,867 80,419 66,350 33,531 26,904 41,188 79,364 37,202 35,489 Goal 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000 24,000

### Mean Miles Between Major Failures (all)

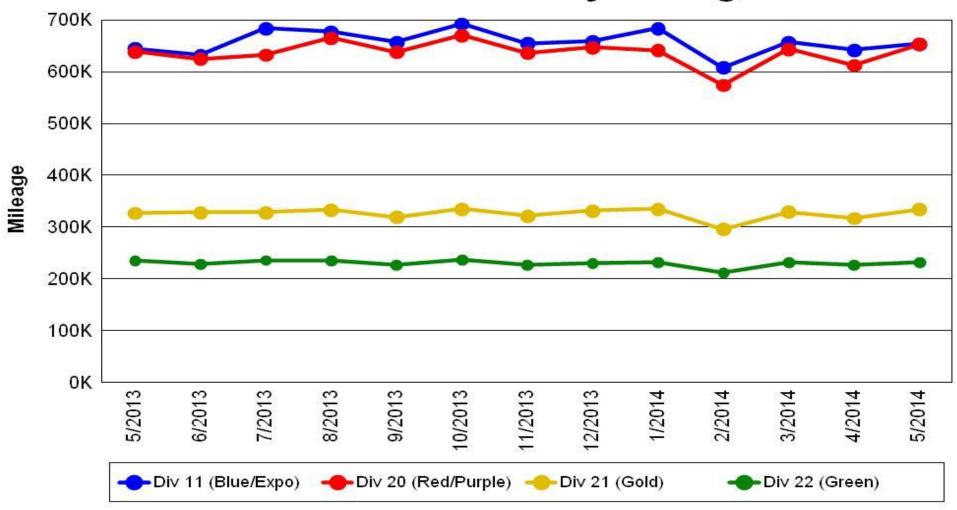
MMBMF





## Mileage Between Data Range (by month) May 2014

### Rail Division Monthly Mileage



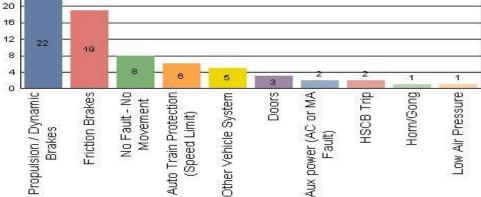


### **Top Incident Categories** May 2014

### **Metro Blue/Expo Line**

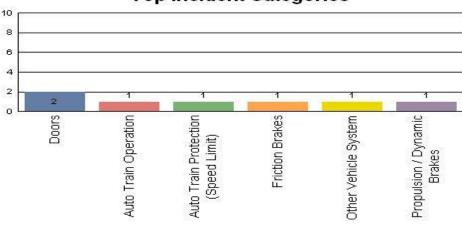
### **Top Incident Categories**

## 24



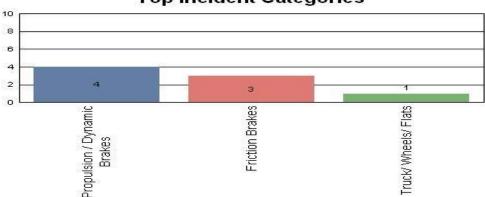
### **Metro Red/Purple Line**

### **Top Incident Categories**



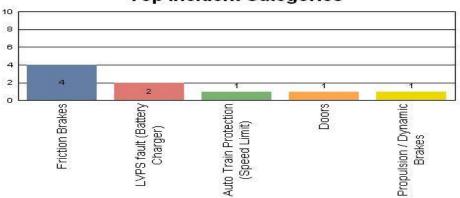
### **Metro Green Line**

### **Top Incident Categories**



### **Metro Gold Line**

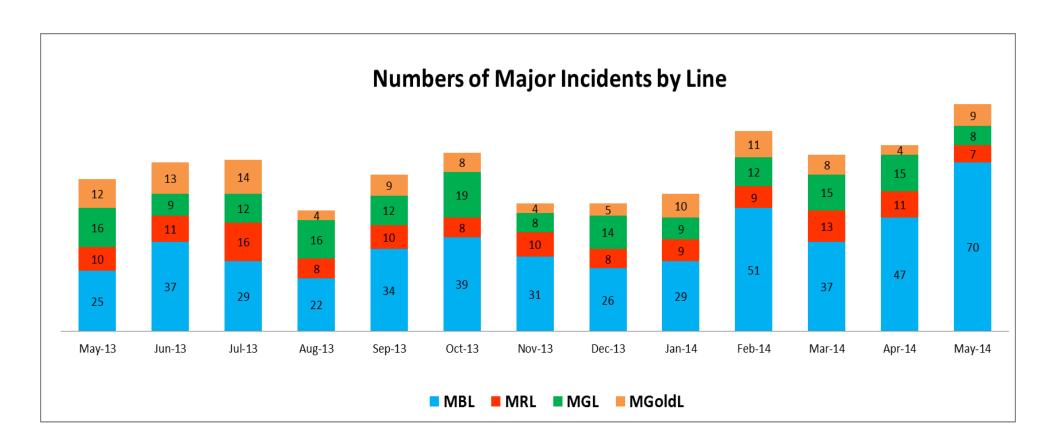
### **Top Incident Categories**





Major Incident: When a train does not complete its scheduled run or is more than 5 minutes late of its scheduled arrival time.

## Major Incidents May 2014



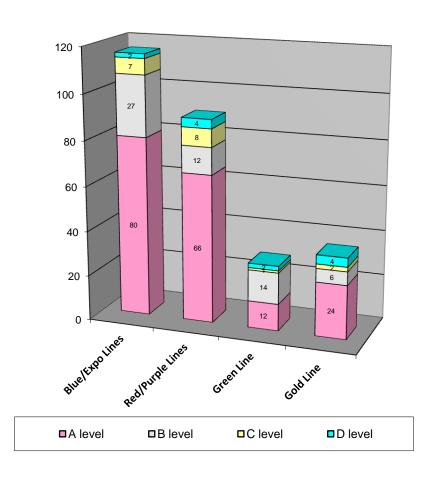


## Preventive Maintenance Compliance May 2014

PM Compliance	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14
Blue/Expo Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Red/Purple Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Green Line	91%	100%	100%	100%	100%	96%	92%	100%	100%	100%	100%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Number of I	Number of Preventive Maintenance Inspections - May 2014													
Line	A level	B level	C level	D level	Totals									
Blue/Expo Lines	80	27	7	2	116									
Red/Purple Lines	66	12	8	4	90									
Green Line	12	14	1	2	29									
Gold Line	24	6	2	4	36									
Totals:	182	59	18	12	271									

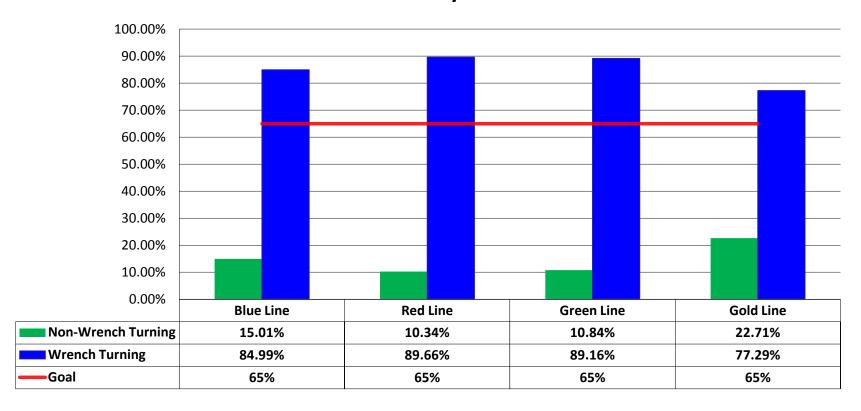
Explanation of PM	Inspection levels	Miles								
Line	Туре	A level	B level	C level	D level					
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000					
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000					
Red/Purple Lines	A650	7,500	22,500	45,000	90,000					
Green Line	P2000	7,500	22,500	45,000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





## RFS Wrench Turning May 2014

RFS - Wrench Turning May 2014

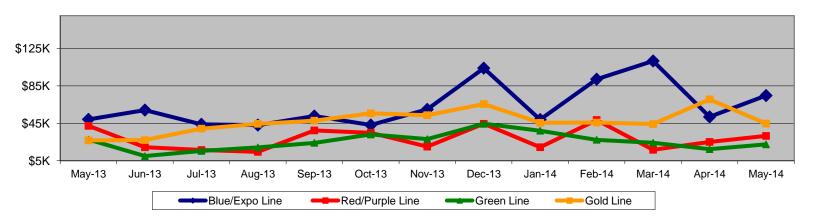




### Vandalism & Graffiti Report May 2014

### **Graffiti Costs**

	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	13-Month Period
Blue/Expo Line	\$49K	\$59K	\$44K	\$43K	\$53K	\$43K	\$60K	\$104K	\$49K	\$92K	\$112K	\$52K	\$75K	\$834K
Red/Purple Line	\$42K	\$19K	\$16K	\$14K	\$37K	\$35K	\$20K	\$44K	\$19K	\$49K	\$17K	\$25K	\$32K	\$371K
Green Line	\$28K	\$10K	\$15K	\$19K	\$24K	\$33K	\$28K	\$44K	\$37K	\$27K	\$24K	\$17K	\$22K	\$330K
Gold Line	\$27K	\$27K	\$39K	\$44K	\$48K	\$56K	\$54K	\$66K	\$46K	\$46K	\$44K	\$71K	\$45K	\$611K
Totals:	\$146K	\$116K	\$115K	\$121K	\$162K	\$167K	\$162K	\$258K	\$151K	\$214K	\$197K	\$165K	\$173K	\$2,146K

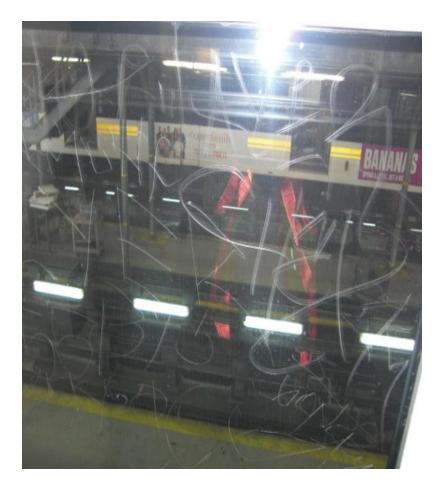


May 2014 Vandalism & Graffiti - All Rail											
	Qty	Labor	Materials	Totals							
Windows replaced	181	\$ 20,664	\$ 27,270	\$ 47,934							
Vandal Shields	855	\$ 24,602	\$ 14,017	\$ 38,619							
Seats Cleaned	604	\$ 3,319	\$ -	\$ 3,319							
Seats Replaced	519	\$ 16,191	\$ 20,516	\$ 36,707							
Graffiti removal - other	908	\$ 18,156	\$ 1,337	\$ 19,493							
Repainting											
panels	293	\$ 21,546	\$ 5,708	\$ 27,254							
Totals	3,360	\$ 104,478	\$ 68,848	\$ 173,326							



## **Graffiti Pictures May 2014**

### **Blue Line**

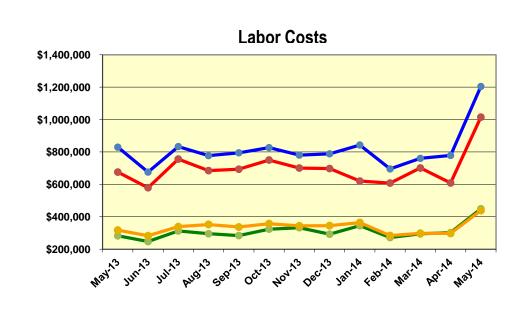


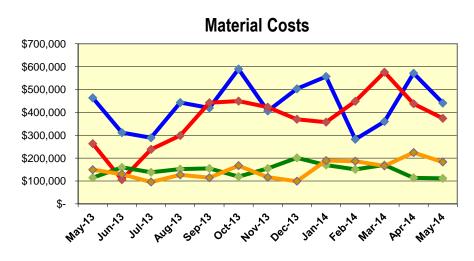
### **Green Line**





## Labor and Material Costs May 2014





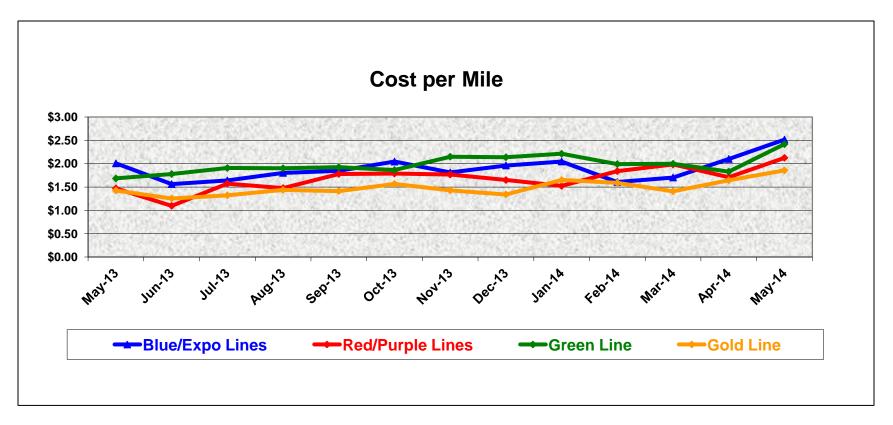
		May-13	Jun-13	Jul-13	Aug-13		Sep-13	Oct-13		Nov-13		Dec-13	Jan-14	Feb-14	Mar-14	Apr-14		May-14
								L	4B(	OR COST	S							
Blue/Expo Lines	\$	829,721	\$ 675,752	\$ 833,333	\$ 777,432	\$	794,828	\$ 826,769	\$	780,678	\$	788,589	\$ 842,979	\$ 695,394	\$ 760,511	\$ 778,469	<b>\$</b> ′	1,204,234
<b>Red/Purple Lines</b>	\$	675,950	\$ 579,395	\$ 756,262	\$ 684,850	\$	693,597	\$ 750,452	\$	700,975	\$	697,759	\$ 620,440	\$ 608,097	\$ 701,156	\$ 608,816	\$ 1	1,015,092
Green Line	\$	282,841	\$ 247,129	\$ 312,740	\$ 295,374	\$	284,105	\$ 323,749	\$	332,737	\$	292,482	\$ 345,262	\$ 271,877	\$ 294,381	\$ 302,213	\$	449,117
Gold Line	\$	317,387	\$ 282,541	\$ 338,719	\$ 352,473	\$	336,795	\$ 357,408	\$	343,700	\$	345,170	\$ 363,886	\$ 283,563	\$ 298,069	\$ 297,634	\$	438,759
Totals	\$ 2	2,105,899	\$ 1,784,817	\$ 2,241,054	\$ 2,110,129	\$ :	2,109,325	\$ 2,258,378	\$	2,158,090	\$	2,123,999	\$ 2,172,567	\$ 1,858,931	\$ 2,054,117	\$ 1,987,132	\$ 3	3,107,202

		MATERIAL COSTS																			
Blue/Expo Lines	\$	463,311	\$	311,415	\$	288,894	\$	442,803	\$	419,133	\$	589,324	\$	406,032	\$	502,761	\$ 556,457	\$ 282,466	\$ 359,845	\$ 570,775	\$ 440,576
Red/Purple Lines	\$	263,158	\$	105,805	\$	238,207	\$	298,670	\$	441,927	\$	449,033	\$	422,849	\$	369,819	\$ 357,244	\$ 448,225	\$ 575,495	\$ 437,612	\$ 373,815
Green Line	\$	114,311	\$	159,526	\$	138,190	\$	152,243	\$	154,678	\$	119,411	\$	154,582	\$	201,035	\$ 169,759	\$ 150,881	\$ 170,250	\$ 113,979	\$ 111,344
Gold Line	<b>\$</b>	149,564	\$	129,742	<b>\$\$</b>	95,664	\$	126,942	\$	114,461	\$	167,128	\$	116,167	<b>\$</b>	99,267	\$ 189,310	\$ 186,640	\$ 166,216	\$ 224,430	\$ 183,115
Totals	\$	990,344	\$	706,488	\$	760,956	\$ 1	1,020,659	\$	1,130,199	\$	1,324,896	\$	1,099,631	\$	1,172,883	\$ 1,272,769	\$ 1,068,212	\$ 1,271,807	\$ 1,346,796	\$ 1,108,849



## Cost Per Mile May 2014

Cost per mile:	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14
Blue/Expo Lines	\$2.01	<b>\$1.56</b>	\$1.64	\$1.80	\$1.85	\$2.04	\$1.81	\$1.96	\$2.05	\$1.61	\$1.70	\$2.10	\$2.52
Red/Purple Lines	\$1.47	\$1.10	\$1.57	\$1.48	\$1.78	\$1.79	\$1.77	\$1.65	\$1.52	\$1.84	\$1.98	\$1.71	\$2.13
Green Line	\$1.68	\$1.78	\$1.91	\$1.90	\$1.93	\$1.86	\$2.15	\$2.14	\$2.21	\$1.99	\$2.00	\$1.83	\$2.42
Gold Line	\$1.43	\$1.25	\$1.32	\$1.44	\$1.41	\$1.57	\$1.43	\$1.34	\$1.65	\$1.59	\$1.41	\$1.64	\$1.86





## ATU Absences vs. Overtime May 2014

	3940	3941	3942	3943	3944	3947	Total
ABSENCE TYPE and HOURS	Admin.	Blue	Red	Green	Gold	Expo	i Otai
AWP-ABSENT W/O PERMISSION	-	120	8	41	_	-	169
BER-BEREAVEMENT	-	24	48	40	_	-	112
CTO-COMPENSATORY TIME OFF	64	409	802	180	238	20	1,713
CUT-EMPLOYEE LEAVES EARLY	-	_	0	-	_	-	0
CVA - CASUAL VACATION	24	200	281	76	160	_	741
DSL-DISABILITY LEAVE/LONG	-	584	168	184	184	128	1,248
EFH-EMG. FLOAT HOL.	8	16	128	24	-	-	176
ETO-EXCUSED TIME OFF	3	67	40	13	88	3	213
FMI-FAM IND INJURY	-	_	184	-	288	_	472
FML-FAMILY CARE LEAVE	-	550	368	112	140	56	1,226
FMS-FAMILY LEAVE SICK	-	93	190	64	16	_	363
HLF-HOLIDAY FLOATING	80	320	630	144	168	20	1,362
HNP-HOLIDAY NOT PAID	-	48	24	-	_	_	72
HOL-HOLIDAY LEGAL	56	480	576	152	136	16	1,416
II-INDUSTRIAL INJURY	-	32	8	176	-	-	216
JUR-JURY DUTY	-	8	48	-	-	_	56
LC1-LABOR CODE 233	12	216	313	92	96	-	729
LTI-OCCPIL/LONGTRM INJ LEAVE	-	120	168	232	352	-	872
MLN-MILITARY ABSENCE-UNPAID	-	8	-	-	-	-	8
OWP-OFF WITH PERMISSION	-	_	30	-	_	_	30
RTO-REQUESTED TIME OFF-NO PAY	-	28	-	6	1	1	37
SCK-SICK PAY	-	382	168	236	40	-	826
SCW-SICK WITHOUT PAY	-	8	48	172	8	_	236
SPN-SCHOOL PARTNER NOT PAID	-	_	_	-	8	_	8
SUS-DISCIPLINARY SUSPENSION	-	_	_	40	-	_	40
TAR-TARDY	-	2	0	2	0	_	5
VAC-VACATION	32	614	726	396	336	31	2,135
<b>Total Absence Hours</b>	279	4,328	4,957	2,382	2,260	275	14,480
ATU Number of Work Force (assigned)	9	120	112	49	49	5	344
Full Work Force hours/month	1,560	20,796	19,410	8,492	8,492	867	59,615
Absence as a % of Work Force	18%	21%	26%	28%	27%	32%	24%

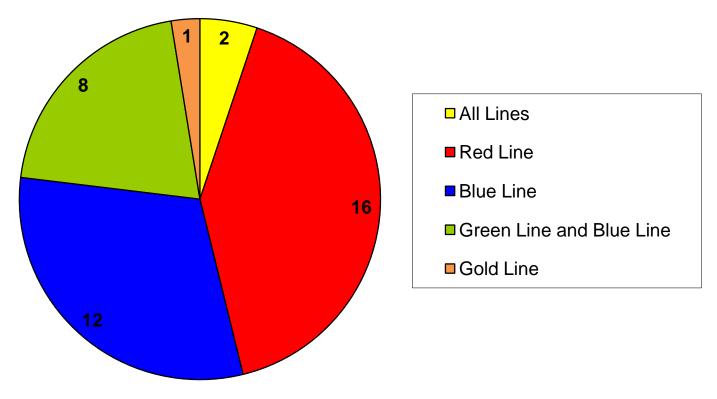
OVERTIME TYPE and HOURS	3940 Admin.	3941 Blue	3942 Red	3943 Green	3944 Gold	3947 Expo	Total
CTB-COMPENSATORY TIME TO BANK	_	42	63	10	7	_	122
OTP-PREM OVERTIME	715	5,579	4,782	2,188	1,738	240	15,241
WLO-Worked Lunch Overtime	44	158	195	146	94	5	640
Total Overtime Hours	758	5,778	5,039	2,343	1,838	245	16,003
Overtime as a % of Work Force	49%	28%	26%	28%	22%	28%	27%
FTE Calculation - Absence & OT H	3940	3941	3942	3943	3944	3947	Total
Absences FTE	2	25	29	14	13	2	84
OTP FTE	4	33	29	14	11	1	92
FTE Difference	-2	-8	0	0	2	1	-8



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

## Rail Vehicle Engineering Project Summary May 2014



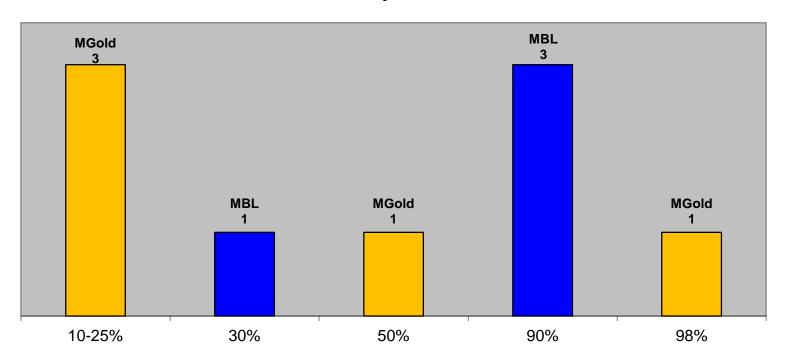




Details of specifications are available upon request.

## Rail Vehicle Engineering Project Summary (cont'd) May 2014

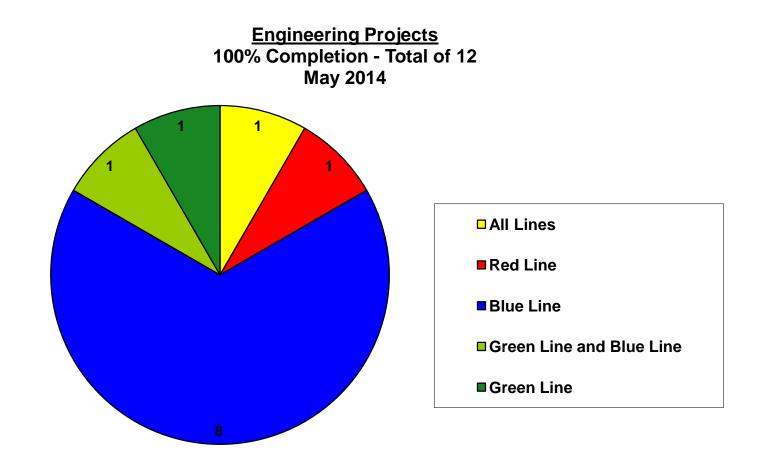
## Engineering Technical Specifications Less than 100% Completion - Total of 9 May 2014



Details of specifications are available upon request.



## Rail Vehicle Engineering Project Summary (cont'd) May 2014

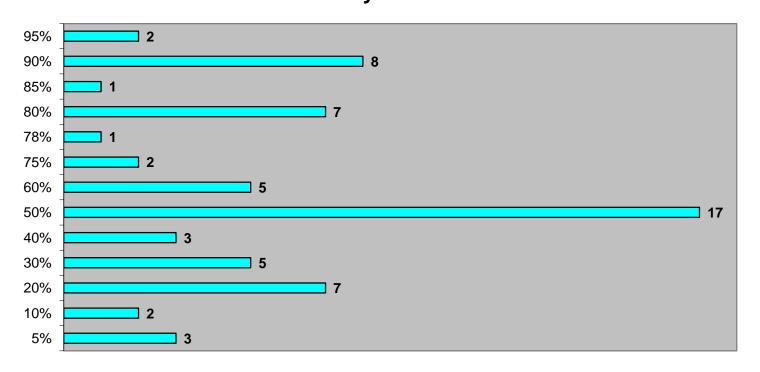


Details of projects are available upon request.



## Rail Vehicle Engineering Project Summary (cont'd) May 2014

Engineering Projects
Less than 100% Completion - Total of 63 - All Lines
May 2014



Details of projects are available upon request.



## QA-Warranty Activities May 2014

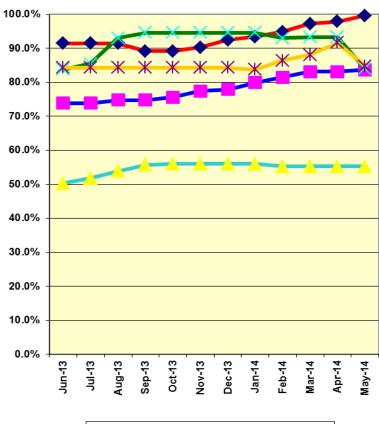
- QA PMI Audits, Spot Checks, Unannounced Audits performed (32)
- On-Going, P2550 parts tracking: Contract Spares, Capital Spares status to ABI
- On-Going, Division Warranty Parts Claims Processing
- P2550 Support of analog converter valves; Overhaul Planned for July 2014
- P2550 Lamellar Seal removal Project Complete
- P2550 50 of 50 Cars have new profile connection beam installed. 50 of 50 Cars with replacement resilient pins and bushings and connection beam.
- A650 Base Buy & Option Car Fleet Warranty Truck Frame Mod Campaign 166 Trucks modified to date. MRL Warranty Cost Avoidance savings accrued to date \$2.4 million.
- MBL journal bearing replacement "C" truck program in progress
- MBL LED Destination sign program/ Modified Controller replacement in progress
- MBL/MGL Support of P2000 Air Compressor/ Air dryer
- On-Going Warranty-QA interest oversight & tracking: Overhauls / Mod Programs,
   (A650/P2000/P2020/865/P2550) Propulsion System, Master Controllers, Capacitor Banks,
   Air Compressors, Aux Power, Couplers, Gearboxes, Articulation Diaphragms, Friction
   Brakes, HPT's, Brake Resistor Grids, T/M's, MA's, HVAC, Doors, A/C Motors (Blowers & Evaporators)



## RFS Instruction Department Activities May 2014

Description	Course Hours	Student Count	Training Hours	_
Blue & Expo Line Training - (P865/2020 & P2000 LRV):				
RFS 865/2020 VEHICLE SYSTEMS	40	6	240	
RFS 865/2020 VEHICLE INTRO	16	6	96	
Total Blue Line	Training	(Houre):	336	-
Total Bide Line	iraiiiig	(Hours).	330	
Red Line Training (Breda A650 HRV):				
RFS BREDA 650 MAINLINE DUTY, DEAD TOW AND VEHICLE RECOVERY	8	7	56	
RFS BREDA 650 PREVNT MAINT INSP	40	8	320	
RFS BREDA 650 PROPULSION ABB	8	8	64	
Total Red Line	Training	(Hours):	440	-
Green Line Training (P2000 LRVs):				
RFS SIEMENS ML DUTY, DEAD TOW AND VEH REC (HANDS ON)	32	4	128	
RFS 2-WEEK RAIL INTRODUCTION	80	2	160	
				-
Total Green Line	Iraining	(Hours):	288	
Gold Line Training (P2550 LRVs):				
RFS ANSALDOBREDA 2550 A.T.P. & T.W.C.	32	5	160	
RFS ANSALDOBREDA 2550 COUPLER	12	5	60	
RFS 2-WEEK RAIL INTRODUCTION	80	1	80	
Total Gold Line	Training	(Hours):	300	-
Total RFS Instruction for the month of M	lay 2014	(Hours):	1,364	
Other Instruction Activities				
Instructor Vacation and Holiday			80	
•			40	
Tunnel Rerailing Exercise and Preparation				
P865\P2020 Curriculum, Administrative, and Technical Support			40	
P2000 Curriculum, Administrative, and Technical Support			40	
P2550 Curriculum, Administrative, and Technical Support			40	
LATTC Curriculum Development (KSME)			80	
Total Other Instruction Activities	<u>i</u>		<u>320</u>	
WWP Training provided by Transportation Instruction			<u>284</u>	
Core Vehicle Training Completed:	BLUE	RED	GREEN	GOLD
Percentage of core vehicle training complete: Siemens P2000 training complete		<b>99.6%</b> N/A	<b>84.0%</b> N/A	<b>84.8%</b> N/A
Average Specialist Rail Experience Level in Years	: 12.0	10.3	9.3	9.1

### **Core Training Completed**





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