



Rail Fleet Services Monthly Report July 2013



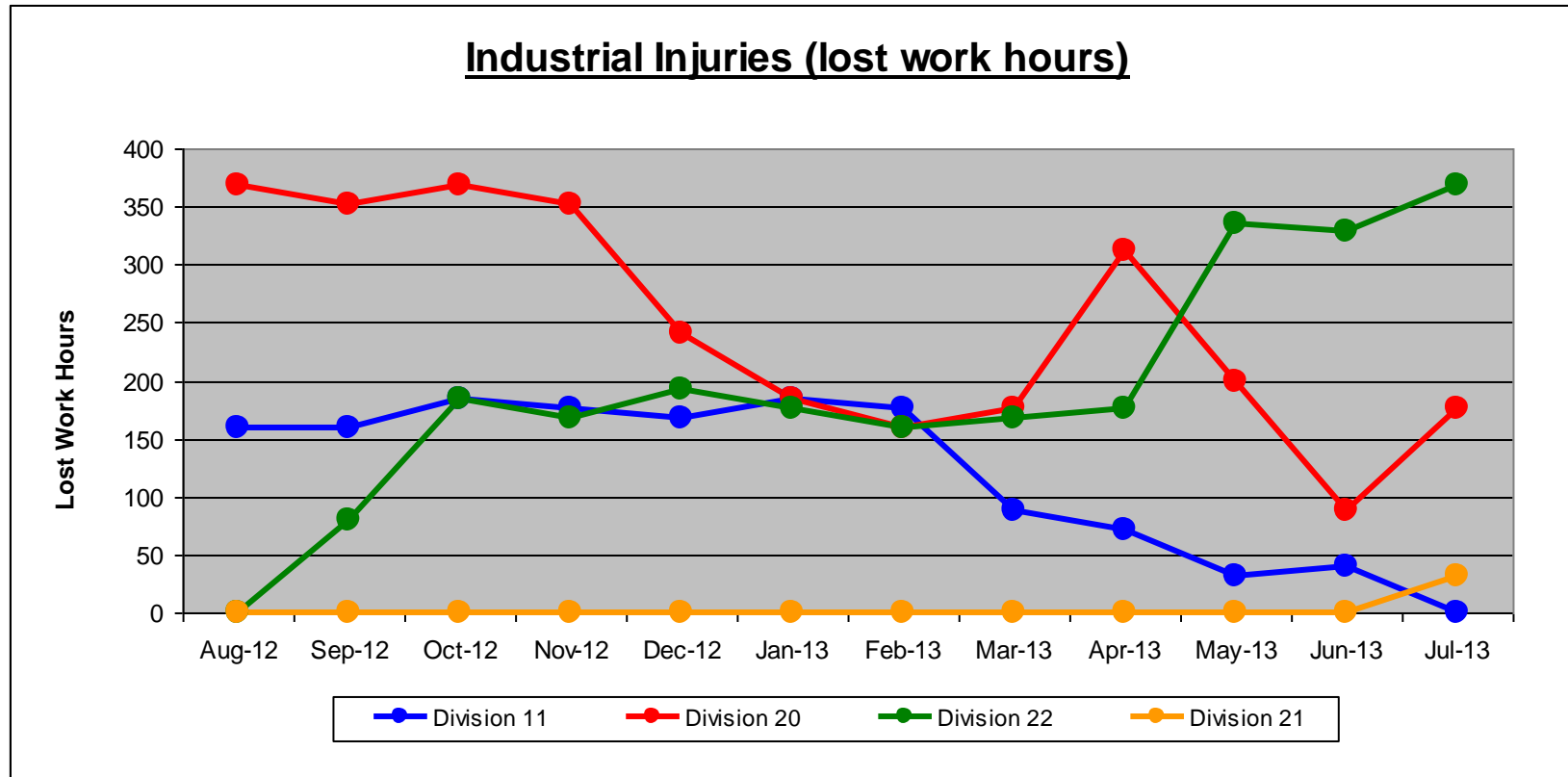
Metro

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Industrial Injuries – Lost Work Hours July 2013

	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Year to Date
Division 11	160	160	184	176	168	184	176	88	72	32	40	0	1,440
Division 20	368	352	368	352	240	184	160	176	312	200	88	176	2,976
Division 22	0	80	184	168	192	176	160	168	176	336	328	368	2,336
Division 21	0	0	0	0	0	0	0	0	0	0	0	32	32
Totals	528	592	736	696	600	544	496	432	560	568	456	576	6,784



Rail Vehicle Accidents & Major Incidents

July 2013

Repair Costs	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Totals
Blue/Expo Line	\$8,226	\$4,726	\$1,668	\$494	\$5,262	\$18,740	\$3,288	\$2,959	\$237,017	\$11,700	\$4,926	\$14,951	\$313,957
Red/Purple Line	\$0	\$778	\$0	\$0	\$0	\$2,244	\$0	\$0	\$4,165	\$0	\$0	\$0	\$7,187
Green Line	\$0	\$0	\$0	\$0	\$503	\$202	\$126	\$0	\$0	\$0	\$0	\$0	\$831
Gold Line	\$1,583	\$0	\$0	\$0	\$0	\$176	\$0	\$0	\$0	\$261	\$8,220	\$0	\$10,240
Totals	\$9,809	\$5,504	\$1,668	\$494	\$5,765	\$21,362	\$3,414	\$2,959	\$241,182	\$11,961	\$13,146	\$14,951	\$332,215

Rail Vehicle Accident Costs - July 2013				
Metro Blue Line				
Date	Incident #	Problem code	Incident Description	Cost
7/4/13	2338403	Train vs. Pedestrian	A 10-72 was reported involving a train made contact with a male Hispanic at 48th PI grade crossing.	\$0
7/6/13	2339036	Train vs. Object	A 10-71 was reported involving missile made contact with windshield and cracked it at the top.	\$0
7/30/13	2346979	Train vs. Pedestrian	Trains # 115 S/Bound Track 2, Washington & Central reports a 10-72 accident.	\$7,809
Total				\$7,809
Metro Expo				
7/7/13	2339209	Train vs. Vehicle	A 10-73 was reported at 30th Street, track 3 northbound.	\$3,706
7/8/13	2339617	Train vs. Object	A 10-71 was reported involving Train # 106's crew door access cover made contact with the platform at Crenshaw station.	\$0
7/15/13	2341931	Train vs. Vehicle	A 10-73 was reported at intersection of Expo and Raymond, track 4, southbound.	\$2,756
7/24/13	2345316	Train vs. Vehicle	A 10-73 was reported at Flower and 18th, track 2, southbound.	\$680
Total				\$7,142
Metro Gold Line				
7/3/13	2337951	Derailment	A 10-75 was reported involving track 2, 800 feet north of Soto station.	\$0
Total				\$0
GRAND TOTAL				\$14,951
(10-71) = Train vs. Object, (10-72) = Train vs. Pedestrian, (10-73) = Train vs. Vehicle (10-74) = Train vs. MTA Vehicle, (10-75) = Derailment				

Service Delivery July 2013

Blue/Expo Line Fleet Size:

92

	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	78	80	103%
Weekend:	60	65	108%

Late Pullouts: 0 *

Monthly Mileage: 684,150

Red/Purple Line Fleet Size:

104

	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	74	83	112%
Weekend:	54	75	139%

Late Pullouts: 0*

Monthly Mileage: 632,628

Green Line Fleet Size:

29

	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	22	23	105%
Weekend:	14	19	136%

Late Pullouts: 0 *

Monthly Mileage: 236,437

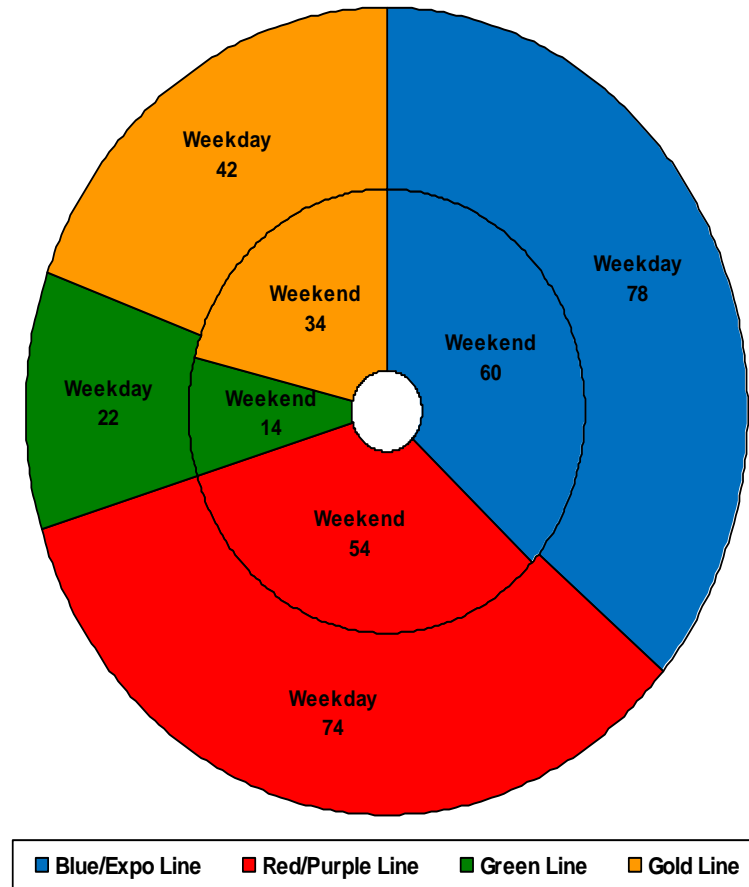
Gold Line Fleet Size:

50

	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Pull Out			
Weekday:	42	44	105%
Weekend:	34	40	118%

Late Pullouts: 0 *

Monthly Mileage: 328,358



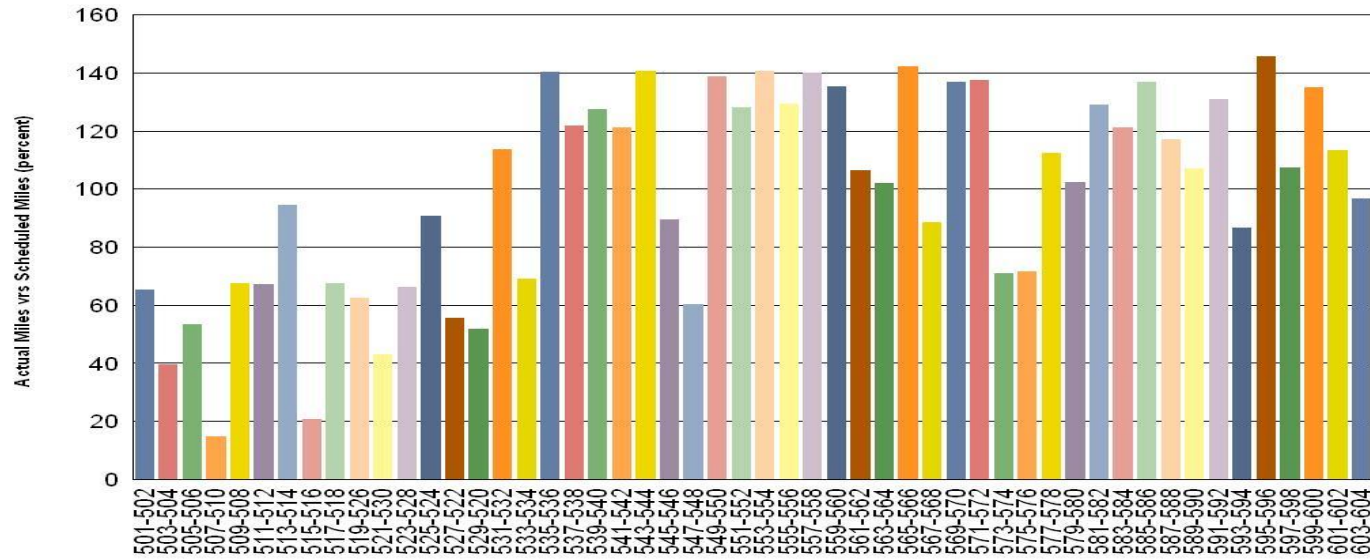
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Vehicle Utilization July 2013

Metro Red/Purple Lines

Red/Purple Lines:

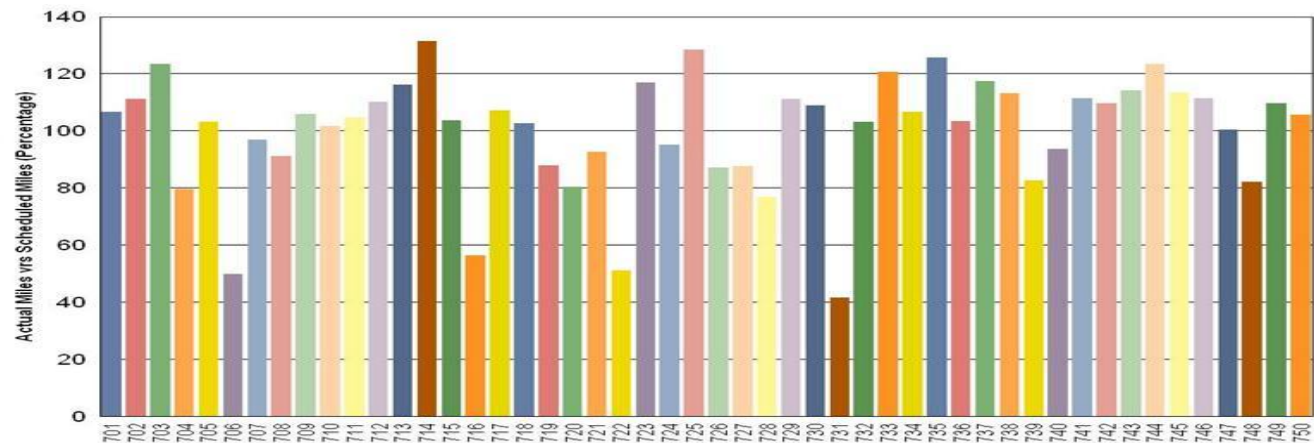
- 503-504 Vehicle held out of service due to mechanical propulsion issues.
- 507-510 Vehicle held out of service due to 90K inspection and emergency brake application issues.
- 515-516 Vehicle held out of service due to propulsion issues.



Metro Gold Line

Gold Line:

The fleet has met the daily maximum utilization requirements for the month of July.



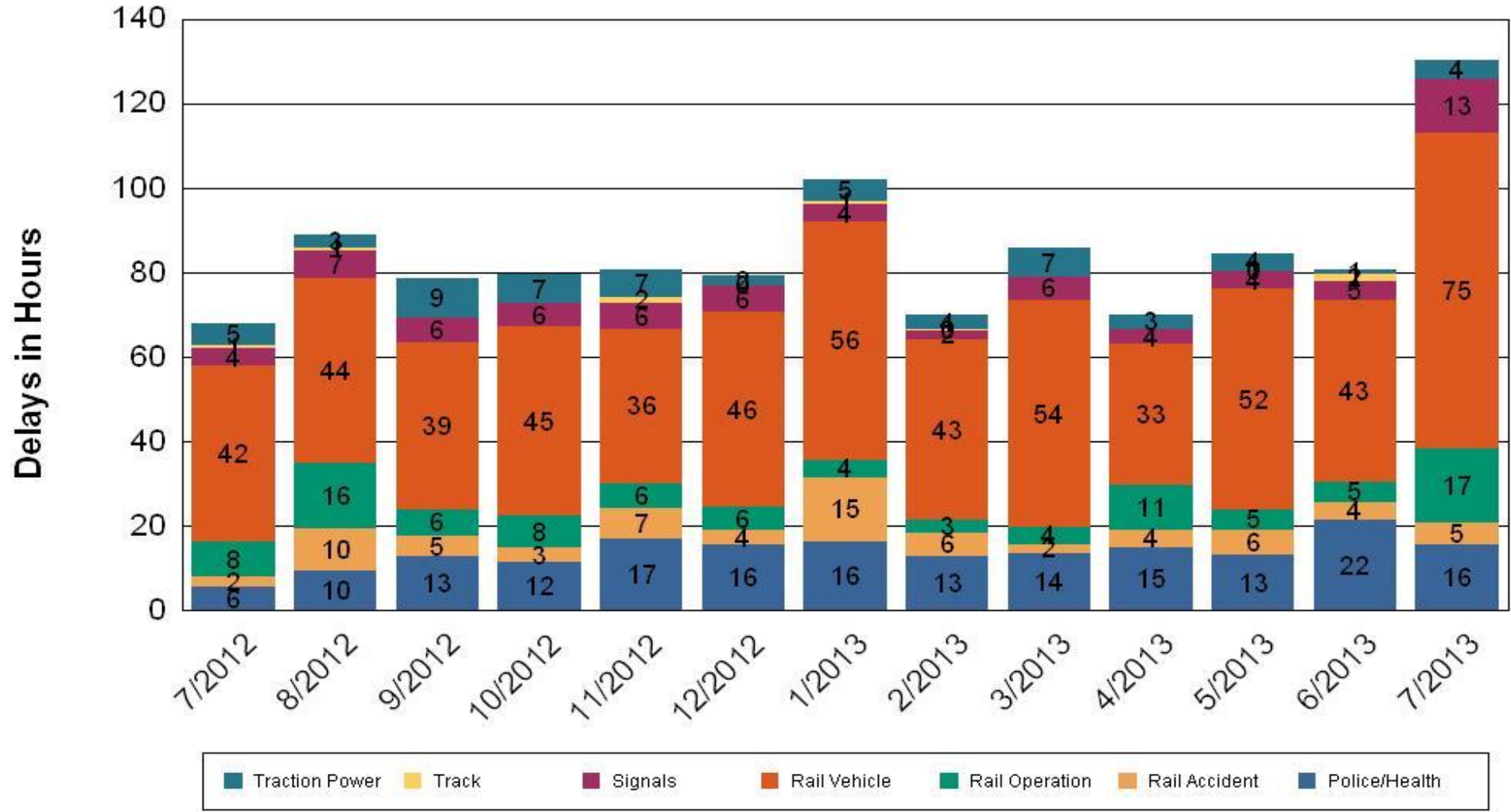
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•Percentage includes an average 4% mileage deduction for yard mileage and vehicle testing.

All Train Delay Incidents July 2013

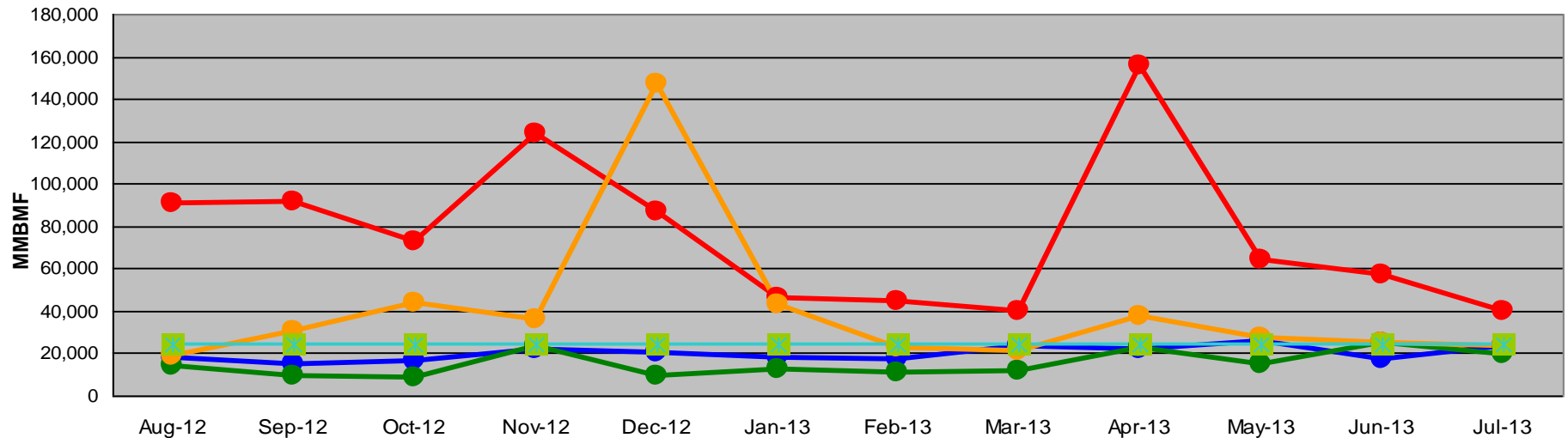
All Train Delays

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

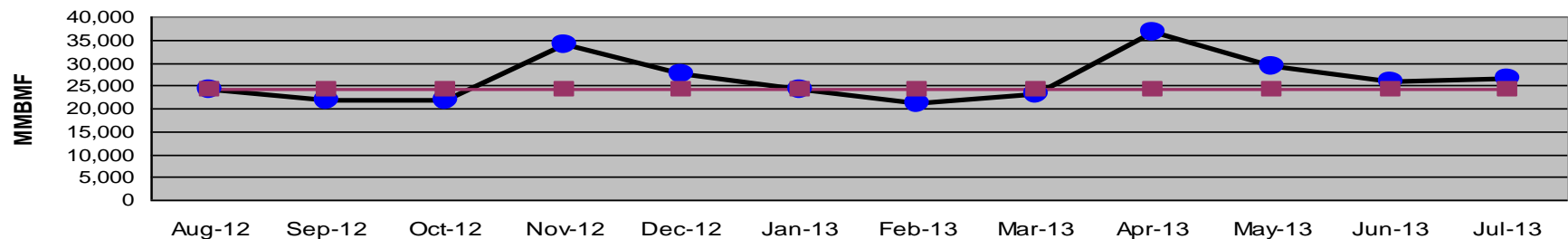


Mean Miles Between Failures (Major) Year to Date

Mean Miles Between Major Failures (12 months)



Mean Miles Between Major Failures (all)

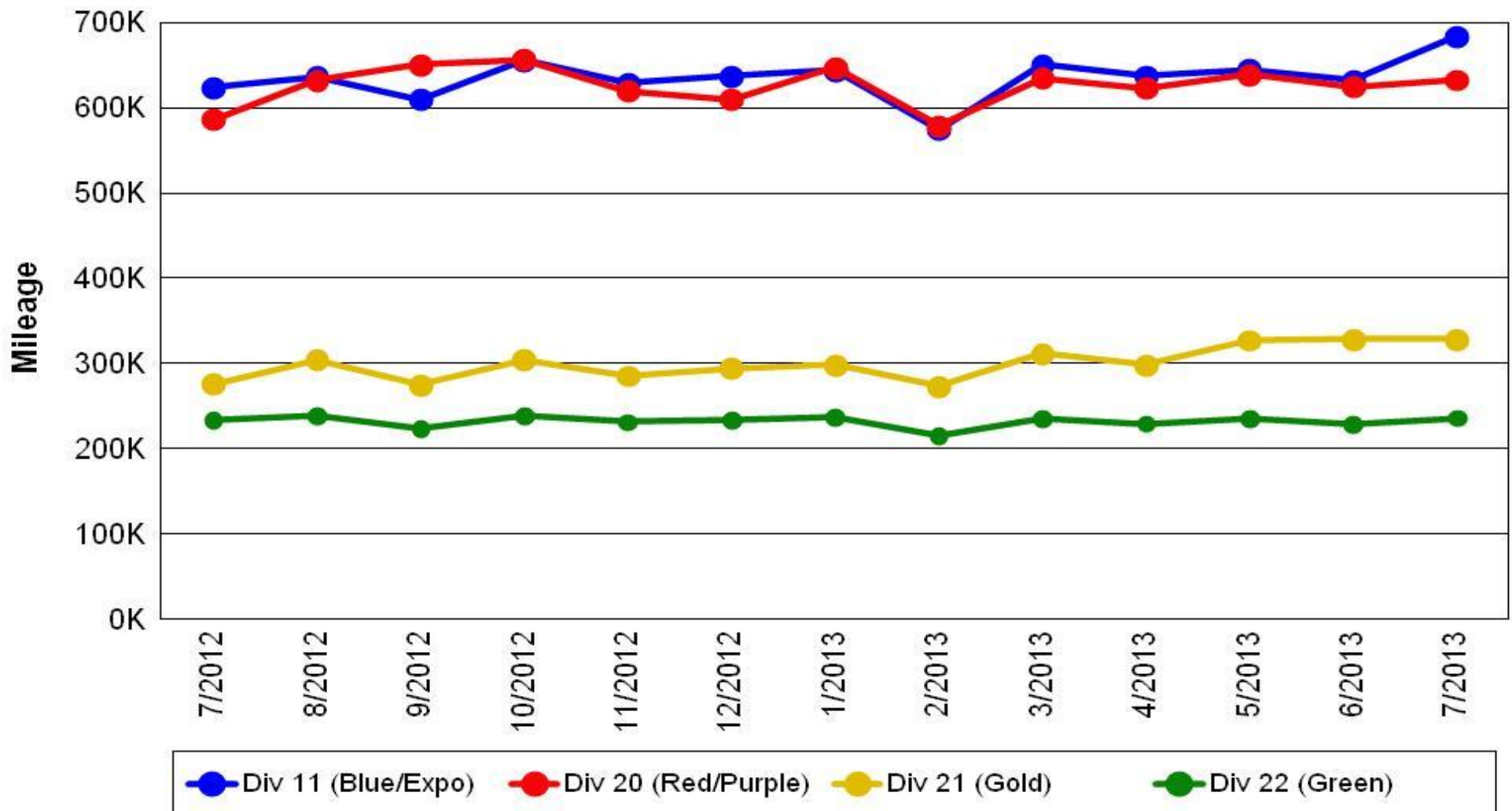


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Mileage Between Data Range (by month)

July 2013

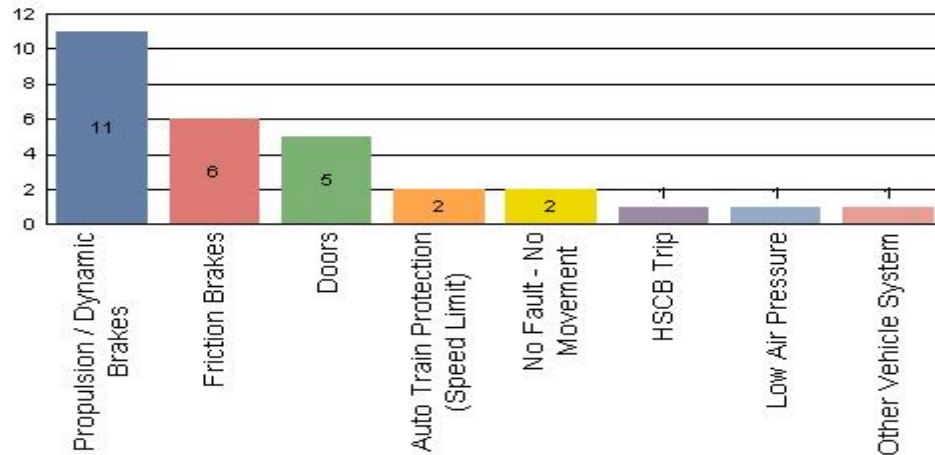
Rail Division Monthly Mileage



Major Incidents July 2013

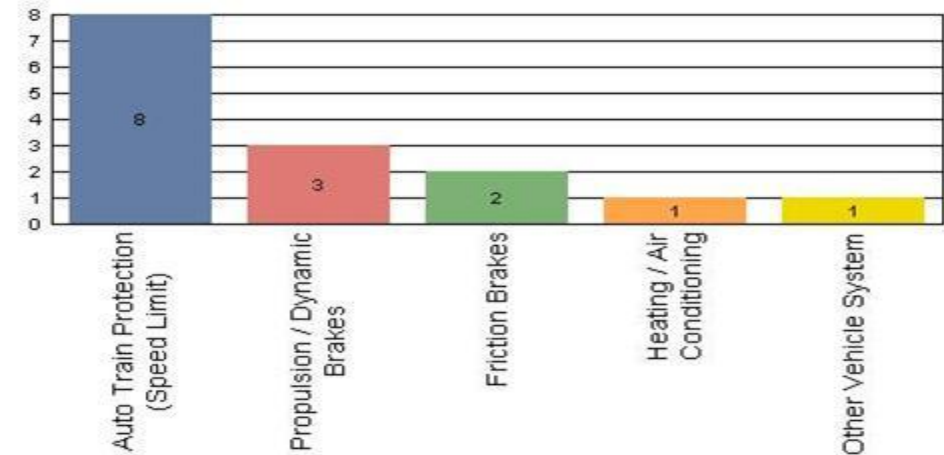
Metro Blue/Expo Line

Top Incident Categories



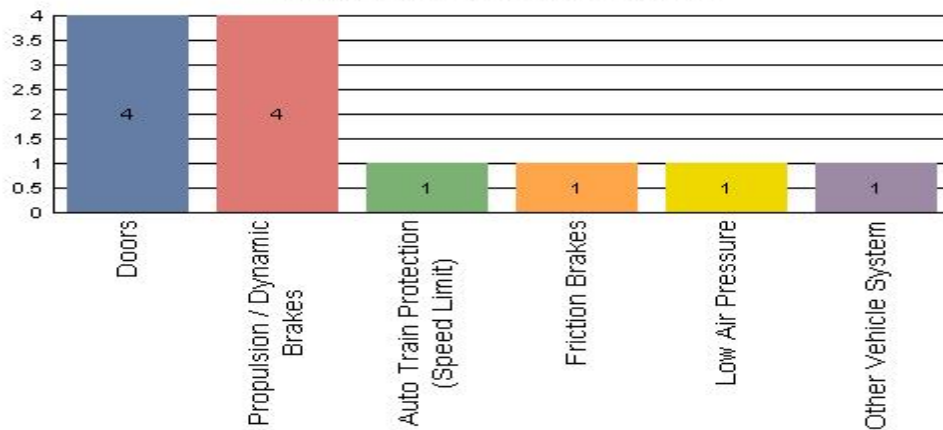
Metro Red/Purple Line

Top Incident Categories



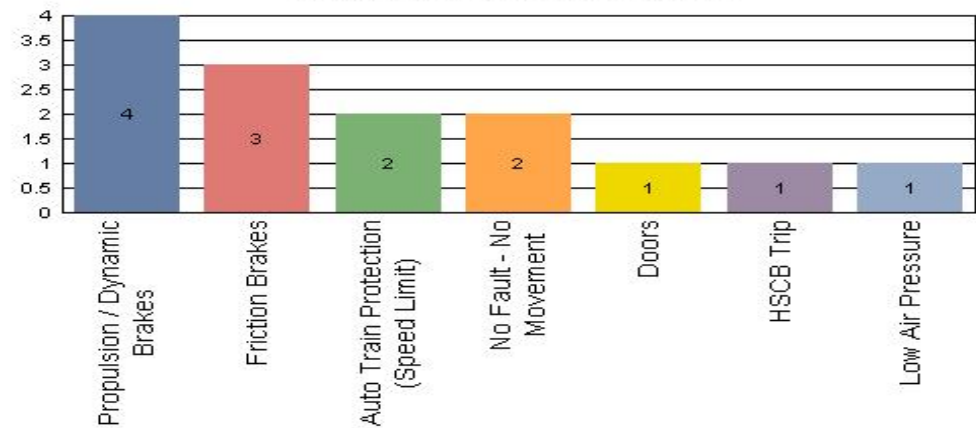
Metro Green Line

Top Incident Categories



Metro Gold Line

Top Incident Categories



Preventive Maintenance Compliance

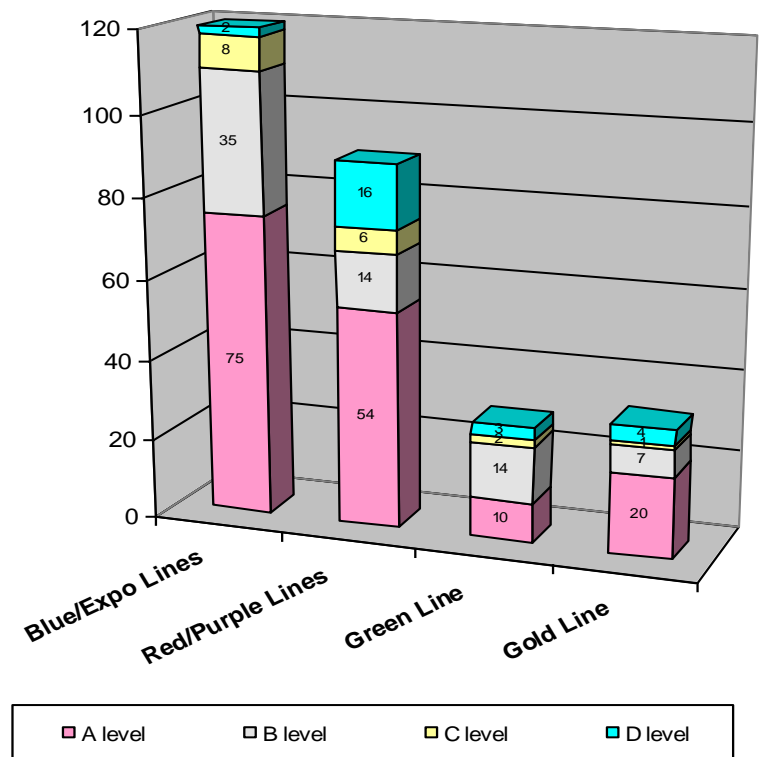
July 2013

PM Compliance	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13
Blue/Expo Lines	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	100%
Red/Purple Lines	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Green Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	91%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Number of Preventive Maintenance Inspections - July 2013					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	75	35	8	2	120
Red/Purple Lines	54	14	6	16	90
Green Line	10	14	2	3	29
Gold Line	20	7	1	4	32
Totals:	159	70	17	25	271

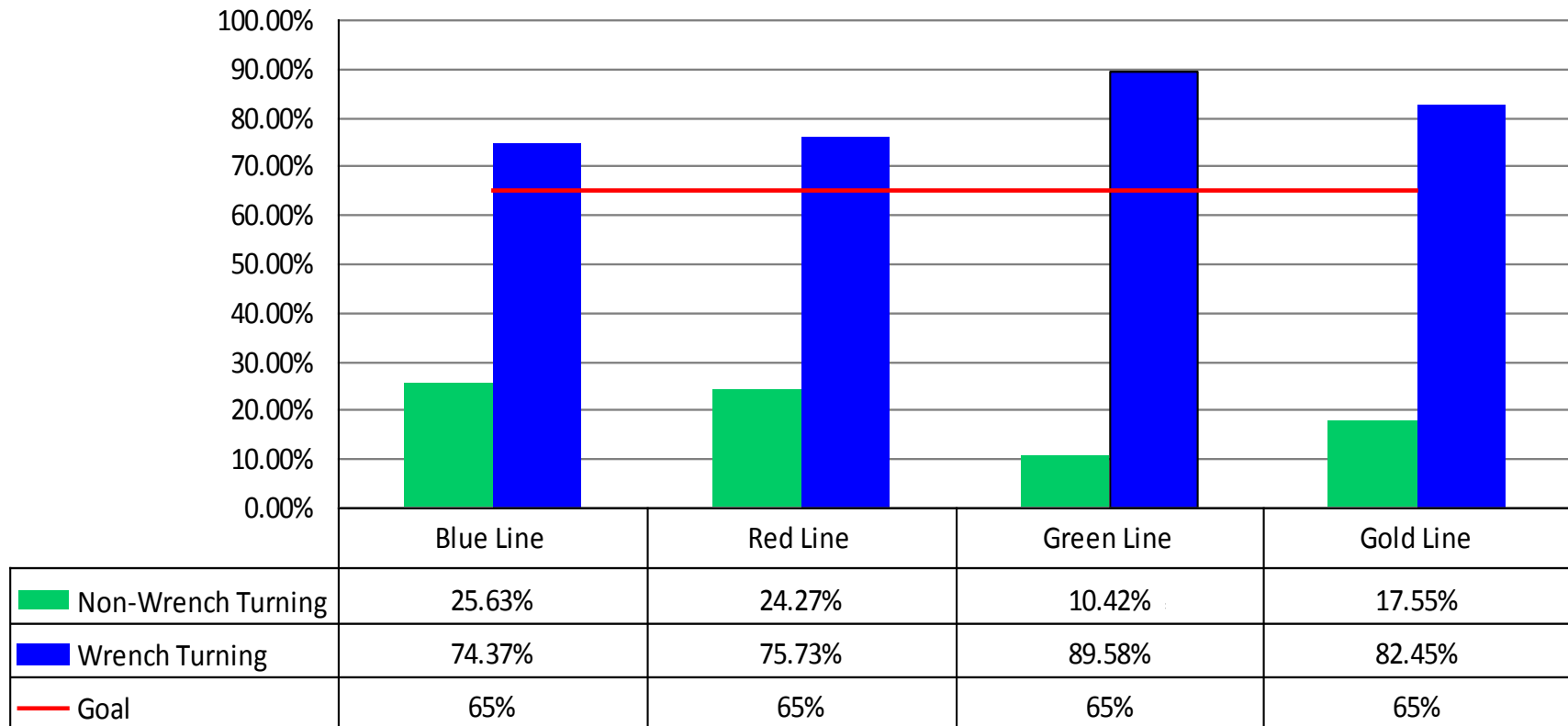
Explanation of PM Inspection levels		Miles			
Line	Type	A level	B level	C level	D level
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000
Red/Purple Lines	A650	7,500	22,500	45,000	90,000
Green Line	P2000	7,500	22,500	45,000	90,000
Gold Line	P2550	10,000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

No. of P.M. Inspections



RFS Wrench Turning July 2013

RFS - Wrench Turning July 2013

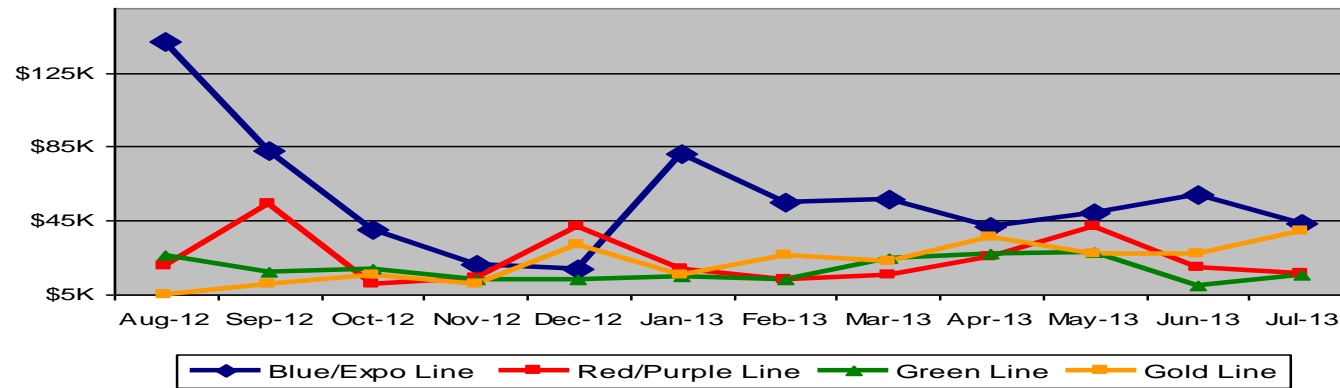


Vandalism & Graffiti Report

July 2013

Graffiti Costs

	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Year-to-Date
Blue/Expo Line	\$142K	\$83K	\$40K	\$21K	\$19K	\$81K	\$55K	\$57K	\$42K	\$49K	\$59K	\$44K	\$692K
Red/Purple Line	\$20K	\$54K	\$10K	\$14K	\$42K	\$19K	\$13K	\$15K	\$26K	\$42K	\$19K	\$16K	\$292K
Green Line	\$27K	\$17K	\$19K	\$13K	\$13K	\$15K	\$13K	\$24K	\$27K	\$28K	\$10K	\$15K	\$221K
Gold Line	\$5K	\$11K	\$15K	\$11K	\$32K	\$15K	\$26K	\$23K	\$36K	\$27K	\$27K	\$39K	\$268K
Totals:	\$194K	\$165K	\$84K	\$59K	\$106K	\$130K	\$108K	\$119K	\$131K	\$146K	\$116K	\$115K	\$1,473K



July 2013 Vandalism & Graffiti - All Rail				
	Qty	Labor	Materials	Totals
Windows replaced	96	\$10,869	\$14,576	\$25,445
Vandal Shields	324	\$9,775	\$5,153	\$14,928
Seats Cleaned	561	\$3,531	\$0	\$3,531
Seats Replaced	274	\$8,632	\$10,424	\$19,056
Graffiti removal - other	1,050	\$20,176	\$3,612	\$23,788
Repainting panels	277	\$19,152	\$9,287	\$28,439
Totals	2,582	\$72,135	\$43,052	\$115,187

Graffiti Pictures July 2013

Blue Line



Green Line



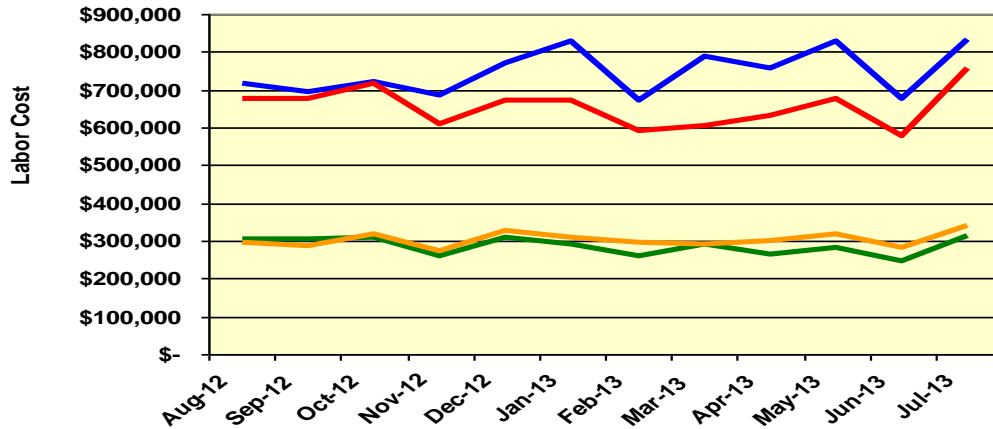
Gold Line



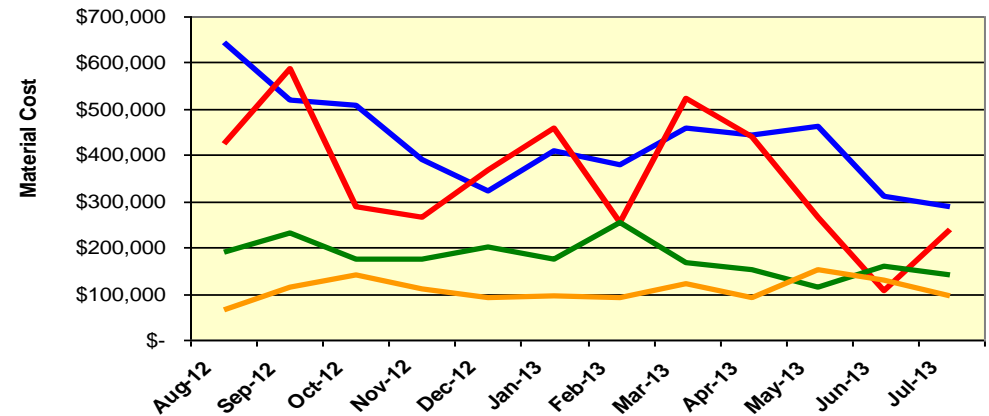
Labor and Material Costs

July 2013

Labor Costs



Material Costs



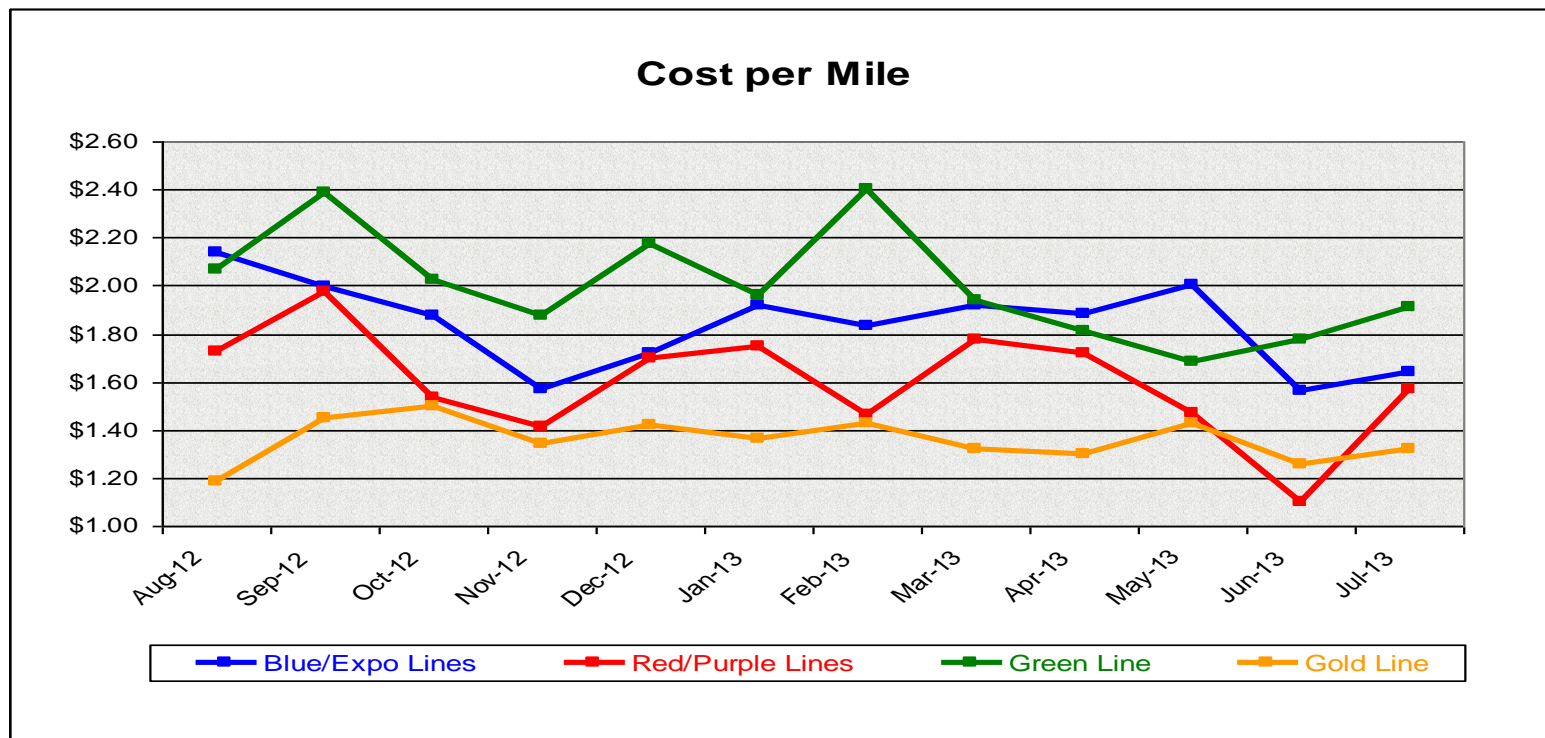
Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13
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	LABOR COSTS											
Blue/Expo Lines	\$ 716,987	\$ 695,926	\$ 722,379	\$ 683,896	\$ 772,382	\$ 827,656	\$ 671,298	\$ 788,111	\$ 755,561	\$ 829,721	\$ 675,752	\$ 833,333
Red/Purple Lines	\$ 676,501	\$ 674,192	\$ 718,139	\$ 610,872	\$ 671,039	\$ 671,792	\$ 590,750	\$ 605,903	\$ 631,518	\$ 675,950	\$ 579,395	\$ 756,262
Green Line	\$ 304,066	\$ 304,487	\$ 309,399	\$ 258,637	\$ 306,761	\$ 290,453	\$ 261,863	\$ 289,639	\$ 263,955	\$ 282,841	\$ 247,129	\$ 312,740
Gold Line	\$ 296,078	\$ 286,489	\$ 318,284	\$ 272,259	\$ 326,736	\$ 311,060	\$ 297,422	\$ 292,452	\$ 298,759	\$ 317,387	\$ 282,541	\$ 338,719
Totals	\$ 1,993,632	\$ 1,961,094	\$ 2,068,201	\$ 1,825,664	\$ 2,076,918	\$ 2,100,961	\$ 1,821,333	\$ 1,976,105	\$ 1,949,793	\$ 2,105,899	\$ 1,784,817	\$ 2,241,054

	MATERIAL COSTS											
Blue/Expo Lines	\$ 643,006	\$ 520,023	\$ 506,591	\$ 388,758	\$ 320,127	\$ 407,585	\$ 379,796	\$ 457,700	\$ 444,569	\$ 463,311	\$ 311,415	\$ 288,894
Red/Purple Lines	\$ 424,173	\$ 587,362	\$ 289,365	\$ 265,900	\$ 365,489	\$ 458,038	\$ 254,026	\$ 522,856	\$ 440,708	\$ 263,158	\$ 105,805	\$ 238,207
Green Line	\$ 189,811	\$ 230,008	\$ 174,361	\$ 175,923	\$ 200,257	\$ 173,693	\$ 254,286	\$ 166,766	\$ 151,982	\$ 114,311	\$ 159,526	\$ 138,190
Gold Line	\$ 64,112	\$ 112,270	\$ 138,235	\$ 111,198	\$ 90,479	\$ 95,355	\$ 91,890	\$ 120,086	\$ 89,212	\$ 149,564	\$ 129,742	\$ 95,664
Totals	\$ 1,321,102	\$ 1,449,663	\$ 1,108,552	\$ 941,779	\$ 976,352	\$ 1,134,671	\$ 979,998	\$ 1,267,408	\$ 1,126,471	\$ 990,344	\$ 706,488	\$ 760,956

Cost Per Mile July 2013

Cost per mile:	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13
Blue/Expo Lines	\$2.14	\$1.99	\$1.87	\$1.57	\$1.72	\$1.92	\$1.83	\$1.92	\$1.88	\$2.01	\$1.56	\$1.64
Red/Purple Lines	\$1.73	\$1.97	\$1.53	\$1.41	\$1.70	\$1.75	\$1.46	\$1.78	\$1.72	\$1.47	\$1.10	\$1.57
Green Line	\$2.07	\$2.39	\$2.02	\$1.88	\$2.17	\$1.96	\$2.40	\$1.94	\$1.81	\$1.68	\$1.78	\$1.91
Gold Line	\$1.18	\$1.45	\$1.50	\$1.34	\$1.42	\$1.36	\$1.42	\$1.32	\$1.30	\$1.43	\$1.25	\$1.32



ATU Absences vs. Overtime

July 2013

ABSENCE TYPE and HOURS	3940 Admin.	3941 Blue	3942 Red	3943 Green	3944 Gold	3947 Expo	Total
AWP-ABSENT W/O PERMISSION	0.00	8.00	0.00	0.00	0.00	0.00	8.00
BER-BEAVEMENT	0.00	48.00	48.00	0.00	24.00	0.00	120.00
CTO-COMPENSATORY TIME OFF	0.00	137.38	180.00	64.00	59.00	28.00	468.38
CUT-EMPLOYEE LEAVES EARLY	0.48	1.50	0.00	0.00	1.00	0.00	2.98
CVA - CASUAL VACATION	44.00	128.00	428.37	32.00	112.00	8.00	752.37
DSL-DISABILITY LEAVE/LONG	0.00	1,160.00	184.00	56.00	176.00	0.00	1,576.00
EFH-EMG. FLOAT HOL.	0.00	40.00	58.00	80.00	16.00	0.00	194.00
ETO-EXCUSED TIME OFF	3.90	56.00	33.17	12.38	50.49	4.50	160.44
FMI-FAM IND INJURY	0.00	0.00	216.00	0.00	144.00	0.00	360.00
FML-FAMILY CARE LEAVE	0.00	64.00	310.98	264.00	624.00	0.00	1,262.98
FMS-FAMILY LEAVE SICK	0.00	8.00	72.50	16.00	14.40	0.00	110.90
HLF-HOLIDAY FLOATING	96.00	1,056.00	632.00	216.00	296.00	88.00	2,384.00
HNP-HOLIDAY NOT PAID	0.00	8.00	0.00	0.00	0.00	0.00	8.00
HOL-HOLIDAY LEGAL	64.00	552.00	568.00	80.00	120.00	32.00	1,416.00
II-INDUSTRIAL INJURY	0.00	0.00	0.00	184.00	32.00	0.00	216.00
IIR-INDUS INJURY-REOCCUR.	0.00	0.00	176.00	0.00	0.00	0.00	176.00
IPD-INJURED PARTIAL DAY	0.00	0.00	40.00	16.00	0.00	0.00	56.00
JUR-JURY DUTY	0.00	116.00	95.76	48.00	24.00	0.00	283.76
LC1-LABOR CODE 233	0.00	0.00	0.00	184.00	0.00	0.00	184.00
LTI-OCCPIL/LONGTRM INJ LEAVE	0.00	0.00	0.00	32.00	0.00	0.00	32.00
MLN-MILITARY ABSENCE-UNPAID	0.00	0.00	54.00	0.00	0.00	0.00	54.00
OWP-OFF WITH PERMISSION	0.00	41.62	0.00	80.00	0.00	0.00	121.62
RTO-REQUESTED TIME OFF-NO PA	0.00	122.37	144.00	0.00	81.50	0.00	347.87
SCK-SICK PAY	0.00	0.00	0.00	32.00	0.00	0.00	32.00
SCW-SICK WITHOUT PAY	0.00	0.00	0.00	0.00	0.00	16.50	16.50
TAR-TARDY	0.00	2.10	0.96	1.98	0.12	0.00	5.16
VAC-VACATION	136.00	1,526.05	1,284.00	528.00	804.00	16.00	4,294.05
Total Absence Hours	344	5,075	4,526	1,926	2,579	193	14,643
ATU Number of Work Force (assigned)	8	121	108	45	48	6	336
Full Work Force hours/month	1,386	20,969	18,716	7,799	8,318	1,040	58,229
Absence as a % of Work Force	25%	24%	24%	25%	31%	19%	25%
OVERTIME TYPE and HOURS	3940	3941	3942	3943	3944	3947	Total
CTB-COMPENSATORY TIME TO BANK	3	363	600	249	151	82	1447
OTP-PREM OVERTIME	763	5492	5396	2518	1680	169	16018
WLO-Worked Lunch Overtime	85	139	147	135	115	12	632
Total	851	5994	6143	2901	1945	263	18097
Overtime as a % of Work Force	61%	29%	33%	37%	23%	25%	31%
UNCOVERED ABSENCES	3940	3941	3942	3943	3944	3947	Total
Absences FTE	2	29	26	11	15	1	84
OTP FTE	5	35	35	17	11	2	104
FTE Difference	-3	-6	-9	-6	4	-1	-20

Note: Overtime also covers other required activities.



Metro

Rail Vehicle Engineering Project Summary

July 2013

Line	Project	Stage	% Complete
1. Specification			
Red Line	GE Gearbox Overhaul - A650/TS/026	IFB 12-0024, Low bidder IM&E - Evaluation of IM&E capability and capacity is in process	75%
Blue line	Battery set - P865/P2020/TS/069	In development	10%
All lines	Vital Relay Calibration, Alstom - Sole Source	In Process by Procurement	100%
Blue line	Glass Windows - P865-P2020/TS-066	Single bid - NASG	90%
Green and Blue lines	Friction brake kit overhaul less air compressor - P2000/TS/035 Rev 0	Released to Procurement for bid - SS was signed - Awarded to Wabtec	100%
Red line	Battery set - A650/TS/39	Released to Procurement for bid - Hoppeke delivered 1st article for testing and approval.	100%
Blue line	Powered axle overhaul - P865-P2020/TS/063 and 052	IFB 13-0030, ORX is the low bidder - Evaluation of ORX capability and capacity is in process	80%
Blue line	Seat inserts - P865-P2020/TS/62	Released to Procurement - Awarded to Sardo	100%
Red line	Base buy gearbox overhaul - P650/TS/040 Rev. 0	*Released to Procurement for bid - Dealing with Flender as OEM *Competitive bid is In Process by Procurement Both bids are on Hold	70%
Red line	Base buy gearbox, new design - A650/TS/044 Rev. 0	In Process by Procurement and OMB	65%
All lines	Vadal shield - A650-P865-P2000-P2550/TS/012	Released to Procurement- Contract awarded	100%
Blue line	Static Inverter APSE - P865-P2020/TS/065 Rev. 0 [2 Parts]	IFB 13-0028 - Evaluation in process	80%
Blue line	Tire Kit - P865-P2020/TS/064	IFB-13-0043 Globe Electric is the low bidder - under Procurement investigation	80%
Green and Blue lines	Tire Kit - P2000/TS/018	IFB-13-0043 Globe Electric is the low bidder - under Procurement investigation	80%
Red line	Base buy DC traction motor overhaul - P650/TS/041	IFB 13-0009, HMI is the low bidder - Evaluation of HMI capability and capacity is in process	75%
Blue line	HVAC Compressor - P865/P2020/TS/067 Rev. 0	IFB 13-0015- Transicold is the low bidder - First article approval in process	75%
Green and Blue lines	LED destination sign - P2000/TS/037 Rev. 0	Released to Procurement	50%
Blue line	Chevron Sprins - P865/P2020/TS/068 Rev. 0	Released to Procurement for bid - IFB 13-0015 In Process by Procurement -GMT is the low bidder. Required 1st article for testing and approval.	50%
Blue line	Chopper Air Filter - P865-P2020/TS/050	In signature	50%
Blue line	Motor Alternator Filter - P865-P2020/TS/051	In signature	50%
Red line	Inverter Air Filter - A650/TS/036	In signature	50%
Gold line	Pantograph - P2550/TS/006	Draft in review	10%

Rail Vehicle Engineering Project Summary (cont'd)

July 2013

Line	Project	Stage	% Complete
2. Field Investigation, Testing, and Troubleshooting			
All Lines	Roadway Worker Protection	CPUC/Installing ProTran1 Device-P865/P2020/P2000 completed, A650/P2550 in installation	100%
All Lines	New Digital Radio installed to replace old radios	Meeting 3/7/2012-Contract awarded, MBL and P2000 completed. A650 in installation in process. P2550 in prototype completed.	70%
All Lines	Bike Space	P2000/P2550/A650 Fleet modification completed.	100%
All Lines	St. Louis LRV	Testing flooring for fire rating - investigating computability.	100%
All Lines	P2550 & P2000 OCS & EMI measurements Gold, Green, Blue lines	Completed Final Test Report	100%
All Lines	EMI and OCS voltage testing on all LRV	Completed at AW0 on all lines accept EXPO. No level 2 or 3 EMI or overvoltage seen.	100%
All Lines	Mapping mainline	Conducted mapping the entire line in 2 weeks for ATP/ATO/TWC - Correction made	100%
Green Line	P2000 (MGL) LRV225 Baseline Measurement Performance Test	Final Test Report completed. Review completed.	100%
Green Line	TWC Calibration procedure.	TWC calibration procedures completed. Issued and Training completed at Division.	100%
Green and Blue Lines	Master Controller - Bombardier Refurbish	Ongoing Program	40%
Green and Blue Lines	Speed Sensors	Testing new speed sensors from Smith System	50%
Green and Blue Lines	Friction Brake failure investigation	Metro technical team with Wabtec (OEM) ongoing investigation.	50%
Green and Blue Lines	Bombardier Engineering Team visit and provide OEM support on Speed Sensor, EMI, MC,...and other issues	In Progress, EMI/EMC updated EPROM reprogrammed	40%
Green and Blue Lines	Prototype "smart" automatic sanding circuit on P2000 vehicle.	Completed	100%
Blue Line	Proposed Spread Spectrum Frequency Hopping technology for vehicle door control safety system.	Consider Protran system (FCC15 passed) as the first prototype to try. Work in progress to consider system design, test and installation. Estimate cost completed minimum cost MBL/EXPO/MGLD \$ 3.2 M. One prototype will be designed and installed coordinated with Protran Engineering. Protran visited at Blue line for train study on August 6, 2013.	20%
Blue Line	Remove the remotely reset CB1 Breaker	Fleet modification completed.	100%
Blue Line	"G" force measurement on Transponder installed on P865/P2020	H&K installed "G" sensor on transponder and collected data for analysis. New carbody mounted bracket were tested and completed fleet modification. New antennas are in installation progress.	100%
Blue Line	Under seat - No motion relays	ABB Prototype installed on 07/24/12 for one month test period. Test was successful. Fleet modification in process..	100%
Blue Line	Replace air compressor DC motor with AC motor	Knorr prototype in Modifying 1 unit is received - Scheduling Knorr field visit to install and test on the car. Prototype installed for testing.	60%

Rail Vehicle Engineering Project Summary (cont'd)

July 2013

Line	Project	Stage	% Complete
2. Field Investigation, Testing, and Troubleshooting			
Blue Line	ATP Antenna investigation	Survey 100% of the fleet - Recommend to replace all ATP antenna. Installed 2 each, new antennas on car 129 and 160. Data on 160 loop test was too high for series old new installation. ALSTOM did not release any antenna schematic or testing procedures.	100%
Blue Line	Cardan Failure Investigation	Lab testing failed components and evaluate those in service - Kar's Lab	10%
Blue Line	Smart Drive Prototype at Blue Line	The project is currently under reviewed for EMI/EMC compliance. Project will be started the week of 8/11/13. Smart Drive came to Blue line and did all measurements inside the cab area to install the Driver and Cameras. They still need to develop the list of Signal interfaces.	20%
Blue Line	LED destination signs First Article Installation and testing	Awaiting Luminator for EMI/EMC test plan and results. Advise them to complete the Inductive testing by Standards.	30%
Red line	Investigate car 505/506	Satatic test completed, dynamic yard test completed, mainline dynamic test scheduled the week of 12/10.	100%
Red line	HPT Upgrade	Wabtec Proposal received. NTP issued 08/08/12. .One car set prototype in testing. First delivery of 16 units scheduled for 02/22/13 - Production is moving forward at 32/month rate.	100%
Red line	ABI New Traction Motor Mount	ABI for Fleet Modification in progress. A total of one hundred twenty six (126) trucks were completed.	58%
Red line	Ribbed Rubber Flooring PRF	Dealing with OEM - PRF. Delivery schedule by end of May. Fleet installation in process.	50%
Red line	Door Operator Gearbox and Rollers Overhaul	In Progress - Buying kits from Vapor Stone to overhaul GB and motor in house.	30%
Red line	H-4 electronic units	Unit upgrade - Fleet issues (Wabtec) to provide new unit proposal. Postpond to mid-life overhaul.	N/A
Red line	Base Buy DC fleet investigation	LJ-CH2M and engineering addressing PECE testing, Capacitors replacement, and modifying A17-A22-A23 boards. Field power supply calibration completed. PECE test procedure. Replacing all system capacitors.	80%
Red line	HVAC Evaporator AC motor/Inverter	Testing 1st article from Vapor Stone on one car. Spec in development for Procurement. Testing with Vapor. EMI/EMC not updated.	10%
Red line	Traction motor Blower- AC motor/Inverter	Testing 1st article from ATS on one car. Spec in development for Procurement. Received new kit proposal.	90%
Gold Line	Vehicle Acceptance	Fifty cars have been Final Accepted.	100%
Gold Line	3P Flip Up Seat Finger Guard	Submitted SS to Procurement - Testori - 2nd prototype received and requires modification to Exec Officers comments.	20%
Gold Line	Find alternative Vendor for Reverse Engineer PCB Boards P2550	In Progress. PSI	5%
Gold Line	Compressor Desiccant Material	Prototype Canistor fitting manufactured and tried at MGLD. Air leak present. Knorr to investigate installation procedure or O ring issues. Prototype installed for testing.	50%
Gold Line	Rubber Boots (High Voltage)	In Progress - Vulcanite. Bought from OEM through A&E Telecom.	100%
Gold Line	Cyclope light and Destination Sign Glass	In Progress - NASG. Prototype installed for testing.	80%

Rail Vehicle Engineering Project Summary (cont'd)

July 2013

Line	Project	Stage	% Complete
2. Field Investigation, Testing, and Troubleshooting			
Gold Line	Ground Brush Schunk (Lamellar Seal failure investigation)	Awaiting ABI/Schunk final update. ABI/Schunk recommended to remove all Lamellar seals, Metro requested an FMI.	25%
Gold Line	HVAC investigation	Water drain and smoking filter issues - Dealing with Thermoking and ABI. TK performing 3 FMI across the fleet. Modification Bulletin for HVAC SS filter issued for signature.	40%
Gold Line	Lateral shock absorber	Investigating the failure of the resilient bushing. ABI will change the Gimo to ZF type on the entire fleet.	20%
Gold Line	EMI/EMC on AM Broadband (540KHz-1610KHz)	Research on instrumentation that can capture harmonics up to AM Broadband. Pending on MOW requirements. Project will be cancelled if not required.	0%
Gold Line	TWC Testing	Investigate TWC performance issue on B end of Vehicle. LTK to issue final report of findings to date. Jeevan from AB will install new software and test will start the week of 8/11/13 scheduled for 3 weeks.	50%
Gold Line	Knorr Braking TVS connector failed shorted	Work in progress. On 8/13/13, Knorr Engineer will be at Gold line shop to work on LRV706 issues.	10%
EXPO	P2000 Couple/un-couple issues	Investigation completed - Test was successful - Fleet modification in process.	100%
EXPO	Mapping entire MBL and Expo line	Mapped entire MBL and Expo line ATP/ATO/Line voltage/ track signals.	100%
EXPO	Junction of Blue line and Expo line Testing - ATP	Testing indicated signal track problem at Culver City. Wayside are recertify track circuits. Testing completed on 10/18/12 indicated track circuit installation problem. GE investigating. Wayside replaced the transponder, fine tuning completed.	100%
EXPO	Loss of Cab signal, speed code 45 mph. Support GE, B&C, Wayside to resolve problems at La Cienega Station Expo line	In Progress to follow up, Update Project: GE replaced New Impedance Bond and verify that 90% of Blue line had been resolved. Repair tested on 03/06/13 - failed test. No flips at 35 MPH however flips at 45 MPH. Report written Expo test report findings 030613. B&C Project changed software (increasing duty cycle). No more reports of Cab signal flips.	100%
EXPO	35 Cab Flips @ Culver City Platform and La Cienega Interlocking	Coordinate with Wayside to resolve the problems. GE vendor get involved to resolve a system design problem on E2C. (diode vs. no diode) Latest updated from BNC: No Diode for EXPO. Awaiting GE&BNC completion to finalize this issue. Repair tested on 03/06/13 - failed test. No flips at 35 MPH however flips at 45 MPH. Report written Expo test report findings 030613. B&C Project changed software (increasing duty cycle). No more reports of Cab signal flips.	100%
EXPO	45mph Loss of Cab @ Culver City Platform	B&C installed new software and readjust the code Track CKT but it did not resolve the problem. Engineering supported the effort by providing the 45mph chart recorder at the site. We also provided the 45mph speed code charted from the Gold line to Michael Grifford for further analysis. B&C Project changed software (increasing duty cycle). No more reports of Cab signal flips.	100%
EXPO	Support B&C by testing car on La Cienega	B&C Engineer and Wayside will be on site to adjust cab signals.	100%

QA-Warranty Program Projects Summary

July 2013

QA-WARRANTY ACTIVITIES

- On-Going, P2550 parts tracking: Contract Spares, Capital Spares, Metro Loaned Parts status to ABI
- On-Going, Division Warranty Parts Claims Processing
- P2550 Fleet High Speed Coupling failure investigation (Action pending ABI)
- P2550 Shock Absorber fleet failure declared, ABI will replace 336 lateral shock absorbers under warranty conditions 15 Vehicles of 50 new shock absorbers installed
- P2550 (Lamellar Seal) Truck Resilient Pin Bushing fleet failure declared (Action pending ABI)
- P2550 10 of 50 Cars have new profile connection beam installed with original resilient pins and bushings
- A650 Base Buy & Option Car Fleet Warranty Truck Frame Mod Campaign (123 of 216 Trucks modified to date). MRL Warranty Cost Avoidance savings accrued to date \$1.87 million
- On-Going, Management's Special Interest Phase-2 Supplemental Inspections, MBL & MGL P2000 Fleet 9 of 52 cars completed
- QA PMI Audits, Spot Checks, Surprise/Unannounced Audits performed (18)
- 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

July 2013

Training classes completed during the month of July 2013

Description	Course Hours	Student Count	Training Hours
Blue & Expo Line Training - (P865/2020 & P2000 LRV):			
RFS SIEMENS 2000 LIGHTS & DEST SIGN	16	9	144
RFS SIEMENS 2000 COMMUNICATIONS	24	9	216
RFS SIEMENS 2000 TRUCK	32	9	288
Total Blue Line Training (Hours):			648
Green Line Training (P2000 LRVs):			
RFS LRV RE-RAILING	8	5	40
RFS SIEMENS 2000 DOOR CONTROLS	40	5	200
RFS SIEMENS 2000 PROPULSION	40	5	200
Total Green Line Training (Hours):			440
Gold Line Training (P2550 LRVs):			
HAZARD COMMUNICATION FOR EMPLOYEES	2	3	6
Total Gold Line Training (Hours):			6
Total RFS Instruction for the month of July 2013 (Hours):			1,094

Other Instruction Activities

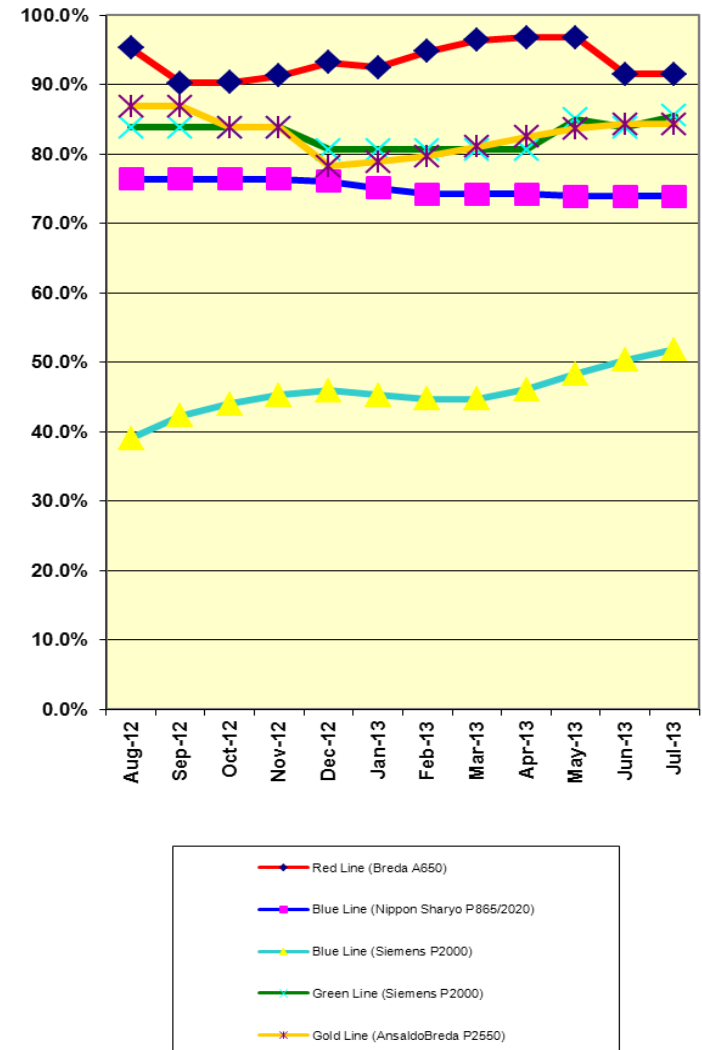
Staff Vacation	132
GENERAL & ELECTRICAL SAFETY TRAINING at LATTC	16
P2000 Vehicle Course Preparation	80
P2550 Main Line Troubleshooting Preparation	80
P2550 Friction Brake Cut Out Training	27
Assisting Training Fire Dept. on P2000 LRV RE-RAILING	24
Red Line PTU Set Up	40
Red Line Engineering Support	40

Total Other Instruction Activities 439.0

Core Vehicle Training Completed: BLUE RED GREEN GOLD

Percentage of core vehicle training complete: 73.9% 91.5% 85.5% 84.3%
Siemens P2000 training complete: 51.8% N/A N/A N/A

Core Training Completed



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