



Rail Fleet Services Monthly Report May 2013



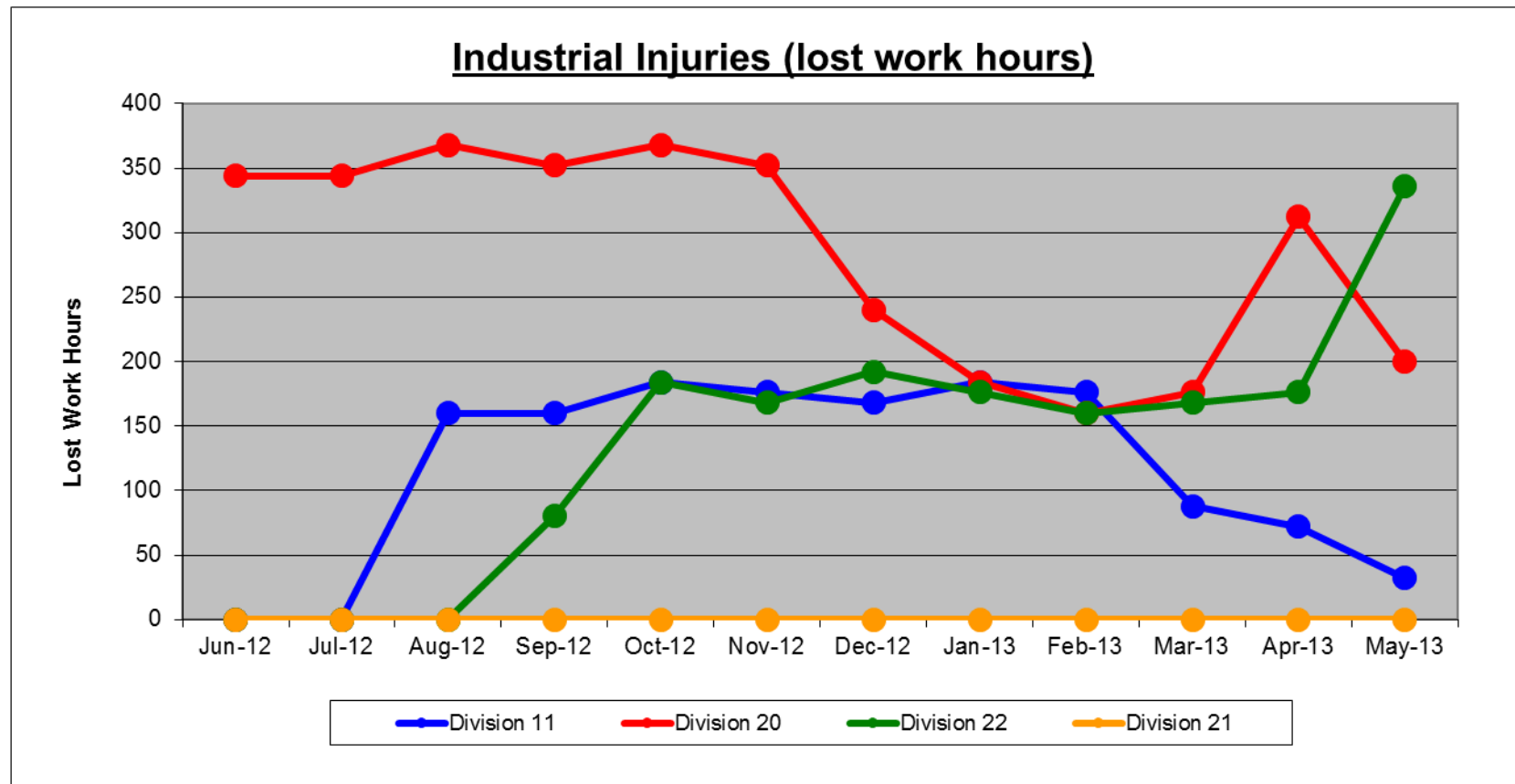
Metro

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		
	- Major Incidents	Page	11
	- Preventive Maintenance Compliance	Page	12
	- Wrench Turning	Page	13
•	Finance		
	- Vandalism & Graffiti Costs	Page	14
	- Graffiti Pictures	Page	15
	- Material & Labor Costs	Page	16
	- Cost per mile	Page	17
	- Absence vs. Overtime	Page	18
•	Engineering		
	- Rail Vehicle Engineering Project Summary	Page	19
•	- Rail Vehicle Engineering Project Summary (cont'd)	Page	20
•	- Rail Vehicle Engineering Project Summary (cont'd)	Page	21
•	Quality Assurance		
	- Warranty Program Projects Summary	Page	22
•	Growth		
	- RFS Instruction Department Activities	Page	23

Industrial Injuries – Lost Work Hours May 2013

	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Year to Date
Division 11	0	0	160	160	184	176	168	184	176	88	72	32	1,400
Division 20	344	344	368	352	368	352	240	184	160	176	312	200	3,400
Division 22	0	0	0	80	184	168	192	176	160	168	176	336	1,640
Division 21	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	344	344	528	592	736	696	600	544	496	432	560	568	6,440



Rail Vehicle Accidents & Major Incidents

May 2013

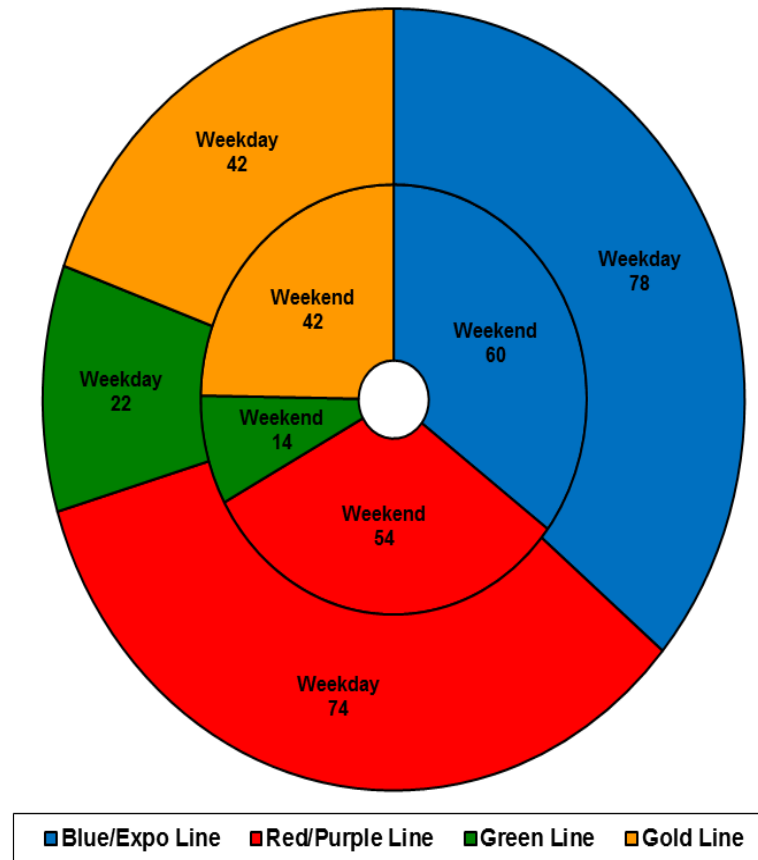
Repair Costs	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Totals
Blue/Expo Line	\$1,186	\$674	\$8,226	\$4,726	\$1,668	\$494	\$5,262	\$18,740	\$3,288	\$2,959	\$237,017	\$11,700	\$295,940
Red/Purple Line	\$0	\$0	\$0	\$778	\$0	\$0	\$0	\$2,244	\$0	\$0	\$4,165	\$0	\$7,187
Green Line	\$0	\$120	\$0	\$0	\$0	\$0	\$503	\$202	\$126	\$0	\$0	\$0	\$951
Gold Line	\$752	\$0	\$1,583	\$0	\$0	\$0	\$0	\$176	\$0	\$0	\$0	\$261	\$2,772
Totals	\$1,938	\$794	\$9,809	\$5,504	\$1,668	\$494	\$5,765	\$21,362	\$3,414	\$2,959	\$241,182	\$11,961	\$306,850

Rail Vehicle Accident Costs - May 2013				
Metro Blue Line				
Date	Incident #	Problem code	Incident Description	Cost
5/16/13	2319988	Train vs. Object	A 10-71 was reported at Gage Grade Crossing on Track 1 heading northbound.	\$524.00
5/28/13	2323716	Train vs. Pedestrian	A 10-72 was reported at the 16.0 mile post marker between Wardlow and main yard interface.	\$522.00
Total				1,046.00
Expo Line				
5/17/13	2320325	Train vs. Object	A 10-71 was reported when train made contact with a shopping cart involving Train #107 at Hauser grade crossing on Track 3.	\$0.00
5/23/13	2322183	Train vs. Vehicle	A 10-73 was reported at Flower and 18th Street when train made contact with vehicle heading southbound on Track 2.	\$10,654.00
Total				\$10,654.00
Metro Gold Line				
4/13/13	2318564	Train vs. Object	A 10-71 was reported on Train 405 at Figueroa crossing with train hitting a crossing arm.	\$261.00
5/21/13	2321265	Train vs. Object	A 10-71 was reported heading northbound at Avenue 33 on Track 2 involving train and a fence pole.	\$0.00
Total				\$261.00
GRAND TOTAL				\$11,961.00
(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 May 2013

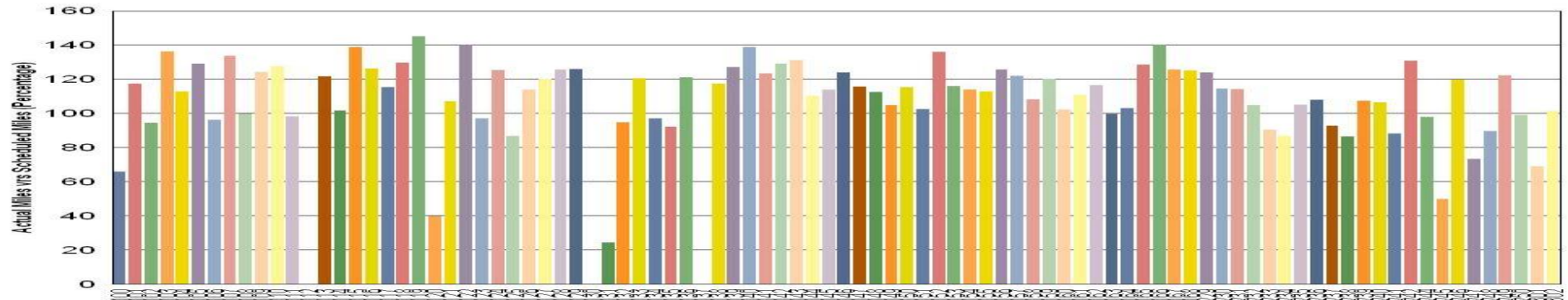
Blue/Expo Line Fleet Size: 92			
<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	78	79	102%
Weekend:	60	65	108%
Late Pullouts: 1 *			
Monthly Mileage:	644,564		
Red/Purple Line Fleet Size: 104			
<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	74	86	117%
Weekend:	54	76	141%
Late Pullouts: 0*			
Monthly Mileage:	638,860		
Green Line Fleet Size: 29			
<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	22	23	103%
Weekend:	14	18	128%
Late Pullouts: 0 *			
Monthly Mileage:	235,869		
Gold Line Fleet Size: 50			
<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	42	44	105%
Weekend:	42	44	105%
Late Pullouts: 0 *			
Monthly Mileage:	327,549		

* Due to a vehicle -related problem



Vehicle Utilization May 2013

Metro Blue/Expo Line Fleet



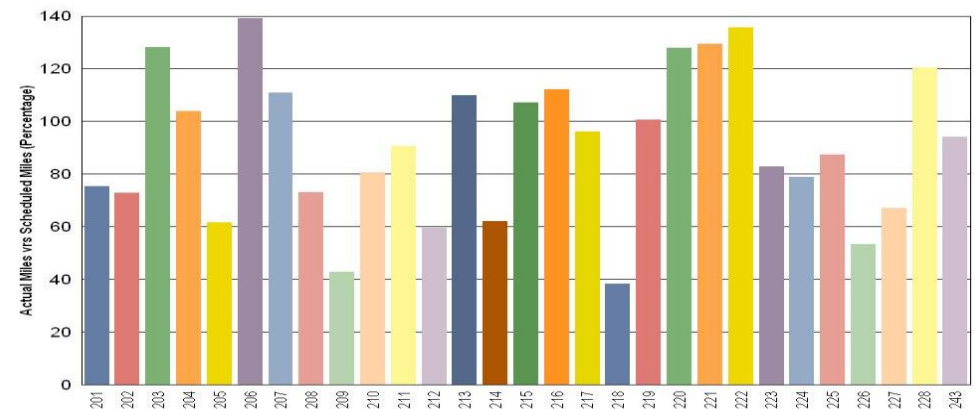
Blue/Expo Lines:

- 112 Vehicle held out of service due to accident damage. Repairs completed in June.
- 130 Vehicle held out of service due to interior graffiti abatement, and exterior paint and window change out. Work to be completed in June.
- 131 Vehicle held out of service due to 60k inspection and friction disk change out. Vehicle has returned to service.
- 137 Vehicle held out of service due to accident repair and is scheduled for repairs in June.

Green Line:

- 218 Vehicle held out of service due to 90k preventative maintenance inspection.

Metro Green Line



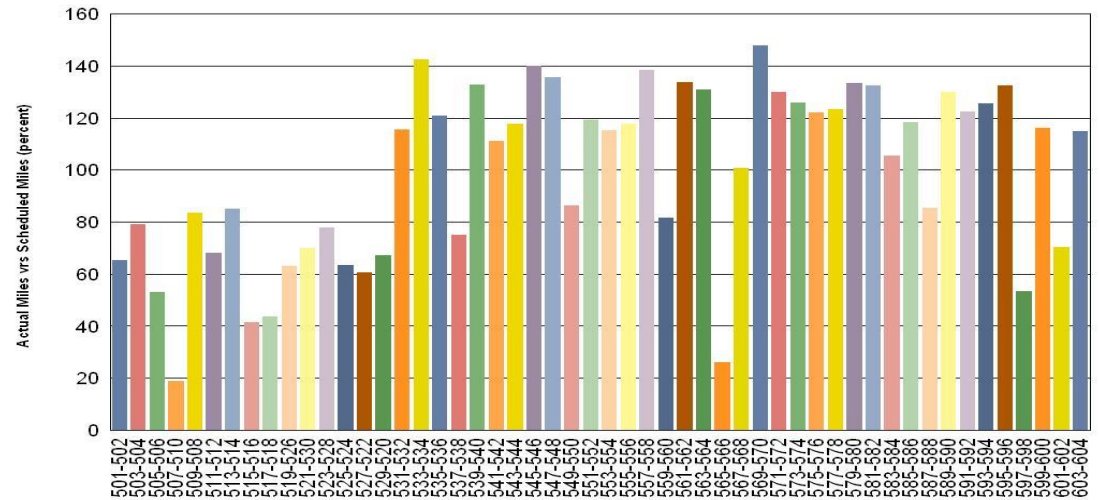
Vehicle Utilization May 2013

Red/Purple Lines:

Explanation for under-used vehicles:

- 507-510 Vehicle held out of service due to propulsion and brake problems.
- 565-566 Vehicle held out of service due to GTO cleaning, brake overhaul, HVAC servicing, and yellow HPT installation.

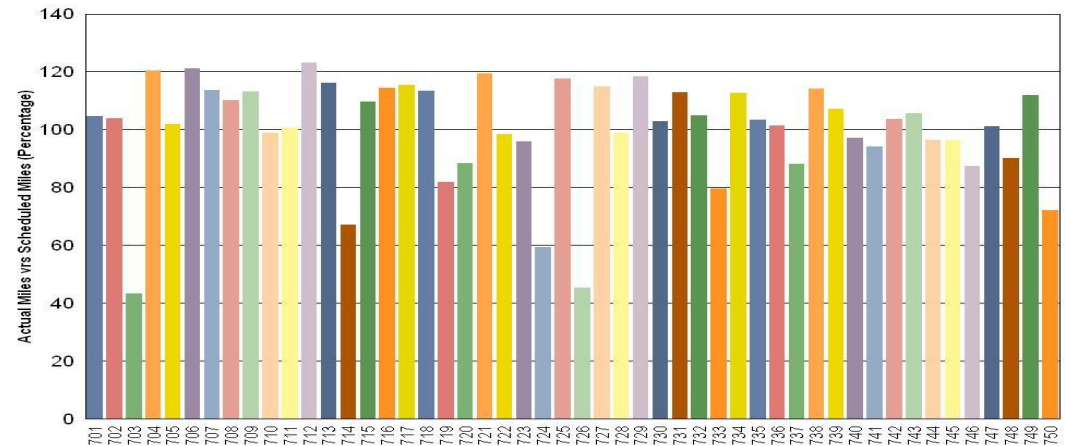
Metro Red/Purple Lines



Gold Line:

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

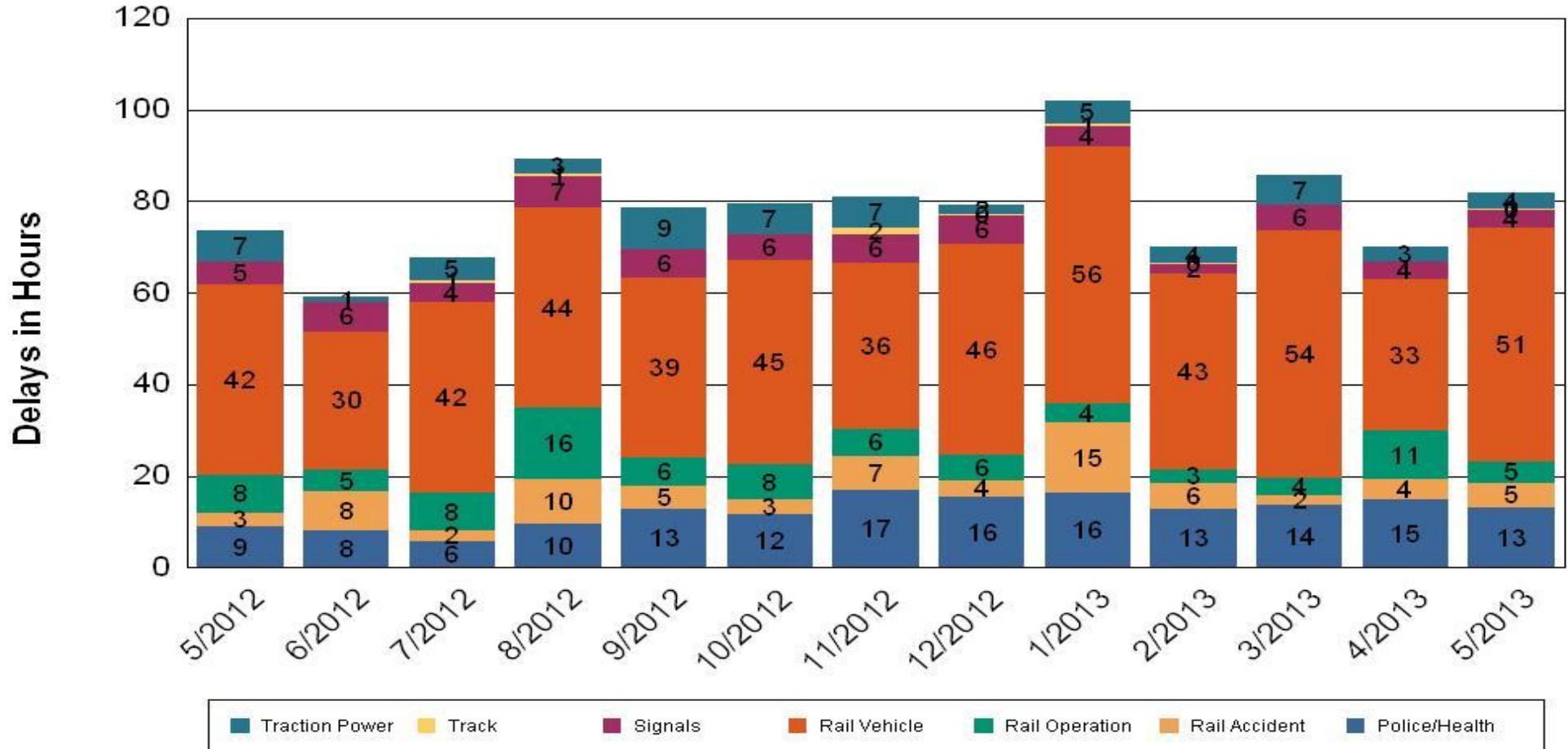
Metro Gold Line



All Train Delay Incidents May 2013

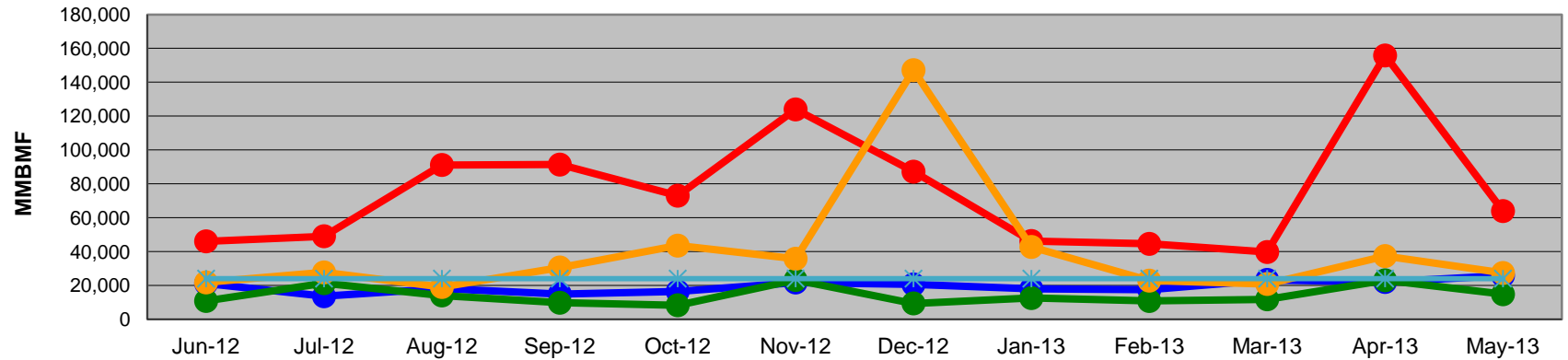
All Train Delays

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



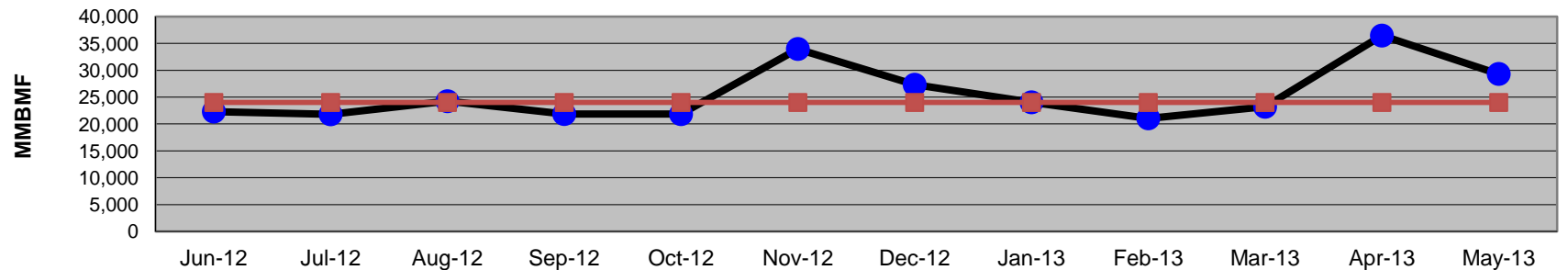
Mean Miles Between Failures (Major) Year to Date

Mean Miles Between Major Failures (12 months)



	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13
Blue/Expo Lines	21,129	13,559	18,185	14,867	16,391	21,686	20,542	17,876	17,418	23,226	21,992	25,783
Red/Purple Lines	46,006	49,022	91,119	91,340	72,959	123,933	87,167	46,203	44,509	39,694	155,798	63,886
Green Line	10,775	21,266	14,043	9,726	8,243	23,154	9,341	12,485	10,752	11,772	22,981	14,742
Gold Line	21,726	27,641	19,040	30,564	43,461	35,725	147,123	42,687	22,795	20,817	37,306	27,296
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

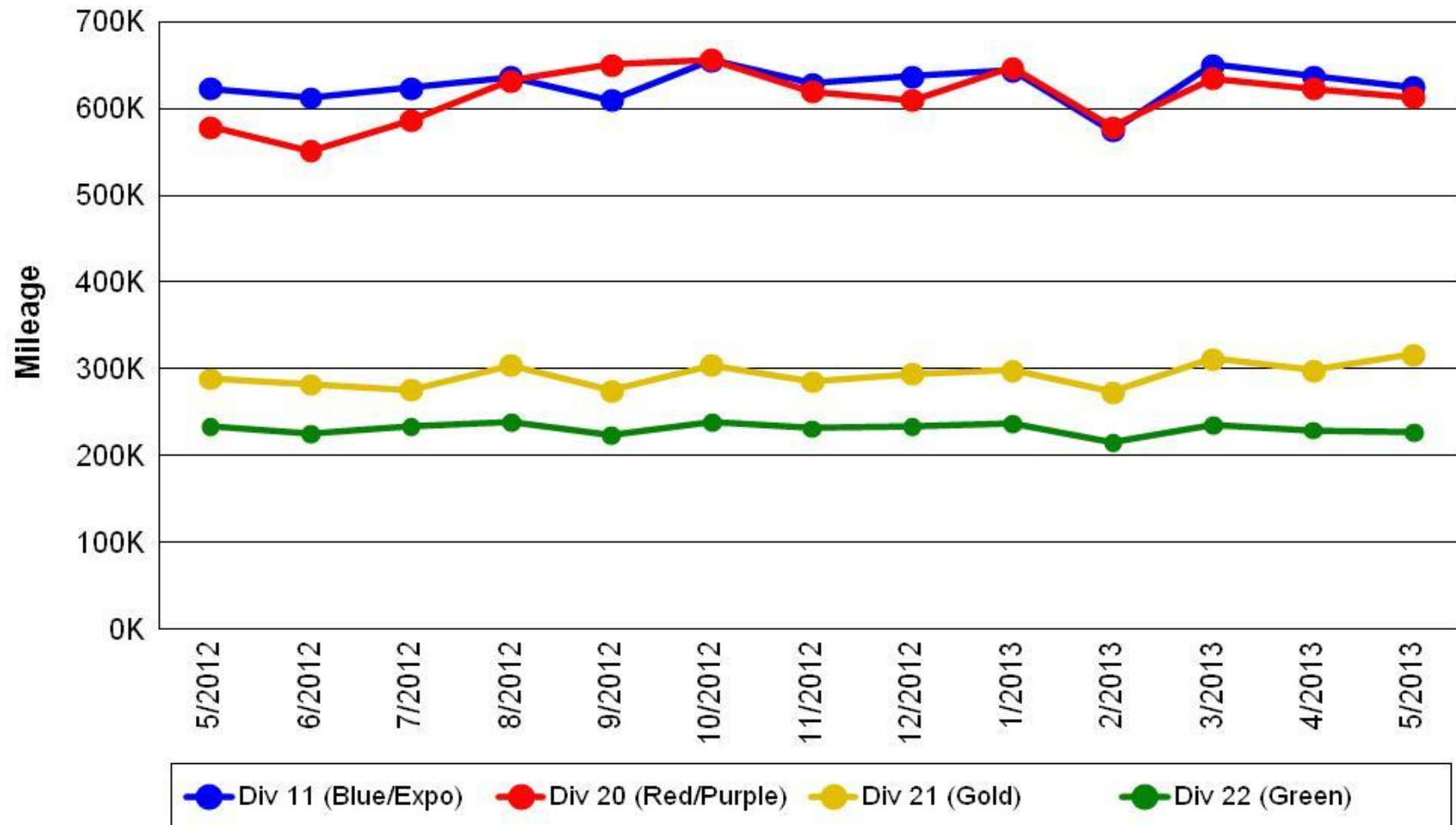
Mean Miles Between Major Failures (all)



	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13
All Rail	22,314	21,802	24,236	21,846	21,830	33,960	27,304	24,032	21,051	23,203	36,455	29,315
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

Mileage Between Data Range (by month) May 2013

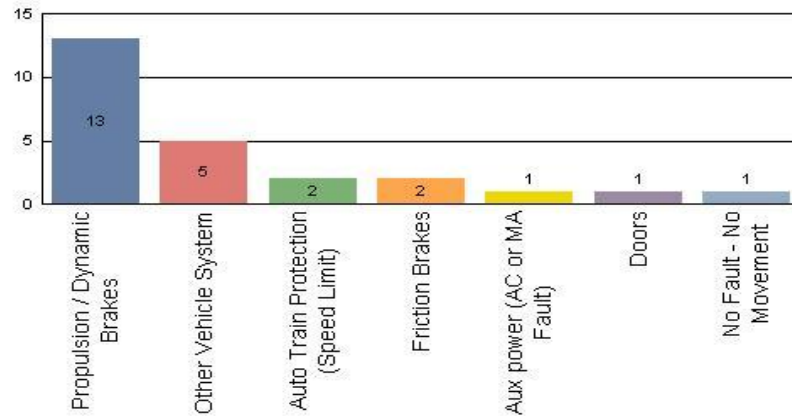
Rail Division Monthly Mileage



Major Incidents May 2013

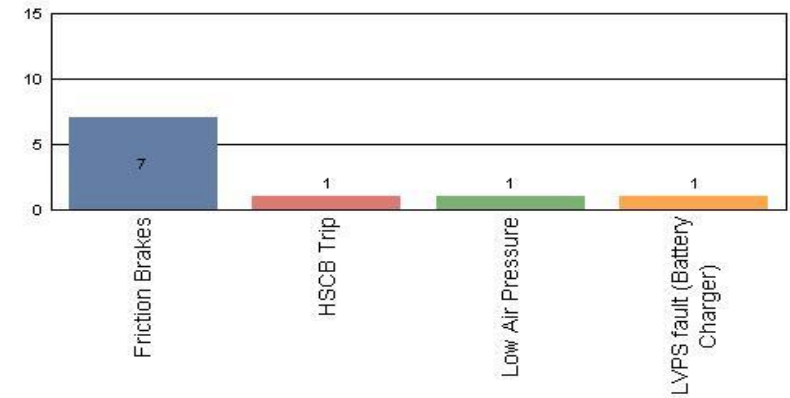
Metro Blue/Expo Line

Top Incident Categories



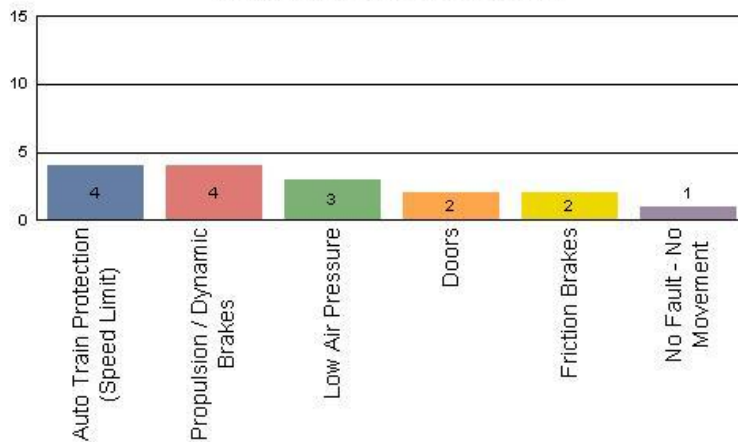
Metro Red/Purple Line

Top Incident Categories



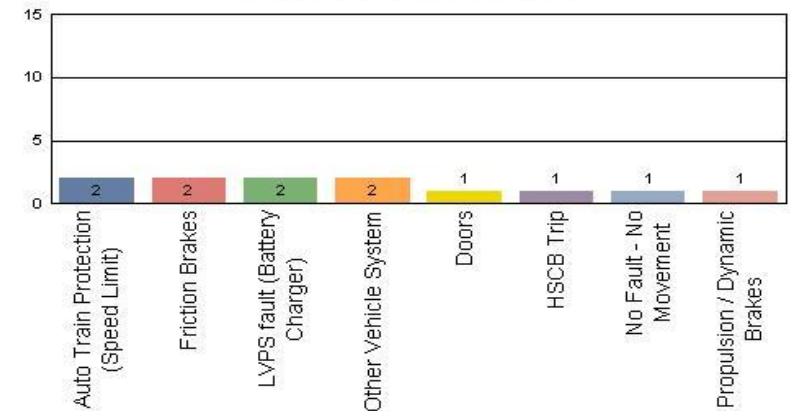
Metro Green Line

Top Incident Categories



Metro Gold Line

Top Incident Categories



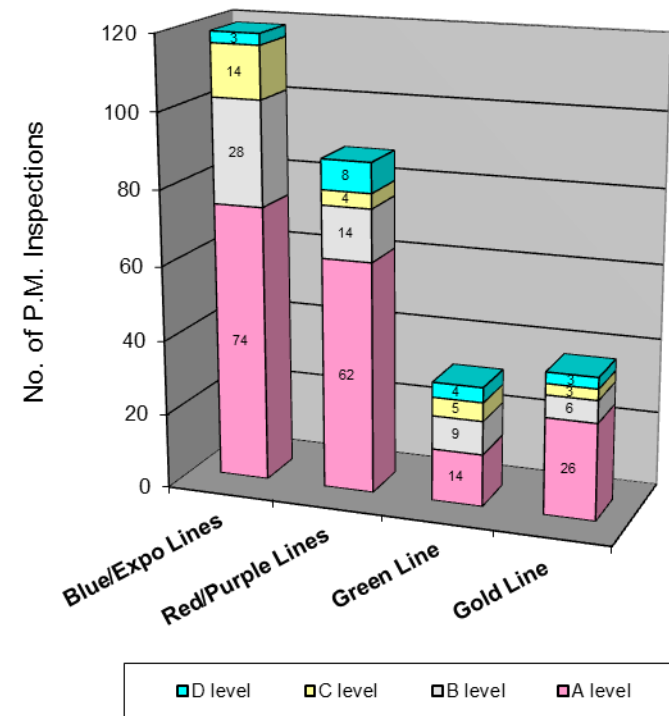
Preventive Maintenance Compliance

May 2013

PM Compliance	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13
Blue/Expo Lines	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%
Red/Purple Lines	100%	100%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Green Line	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	91%*
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Number of Preventive Maintenance Inspections - May 2013					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	74	28	14	3	119
Red/Purple Lines	62	14	4	8	88
Green Line	14	9	5	4	32
Gold Line	26	6	3	3	38
Totals:	176	57	26	18	277

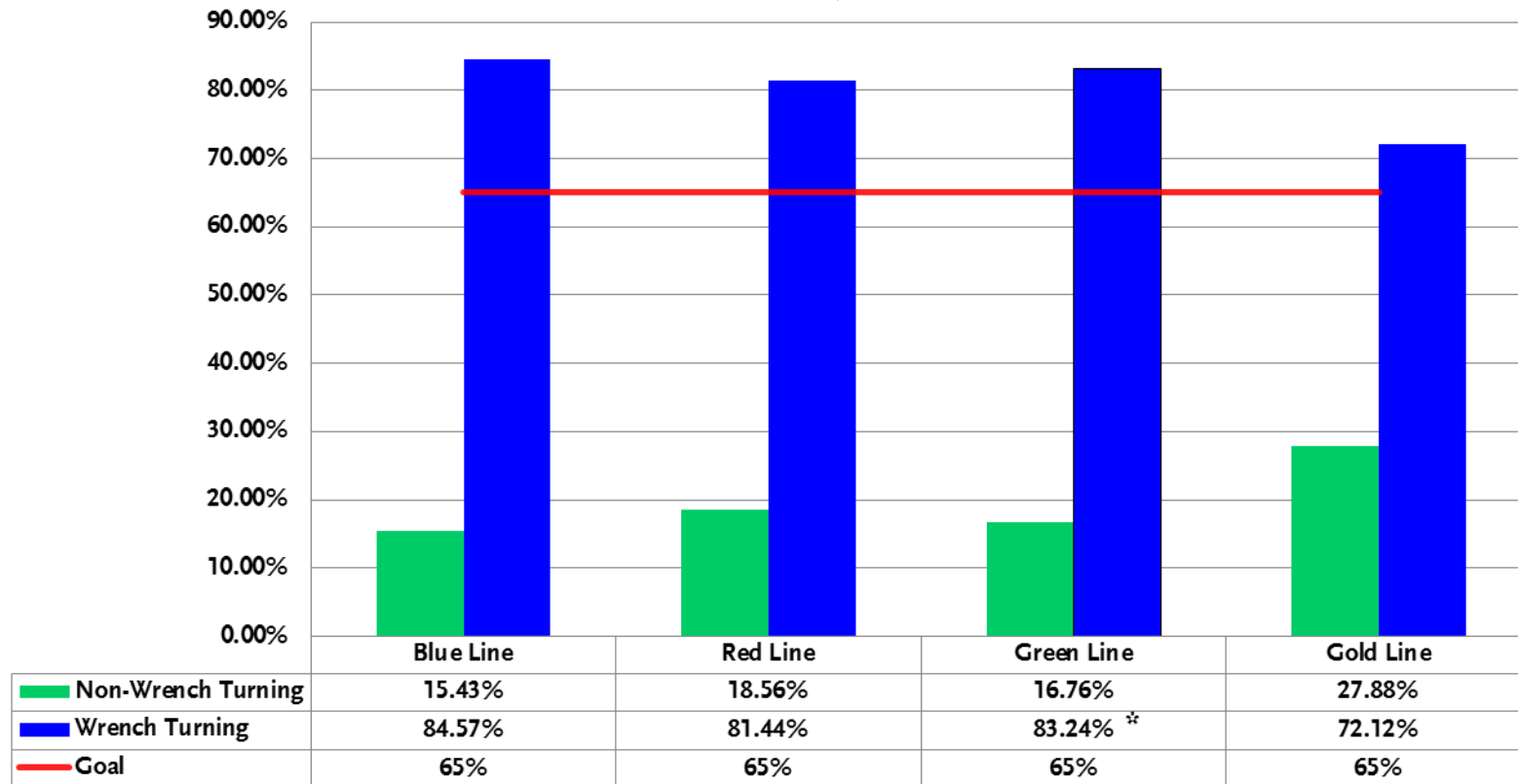
Explanation of PM Inspection levels		Miles			
Line	Type	A level	B level	C level	D level
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000
Red/Purple Lines	A650	7,500	22,500	45,000	90,000
Green Line	P2000	7,500	22,500	45,000	90,000
Gold Line	P2550	10,000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



*Note: Vehicle 222 held in-service by ROC causing accumulated mileage. Vehicles 204/218 were released for service without closing work order resulting in accrued mileage.

RFS Wrench Turning May 2013

RFS - Wrench Turning May 2013

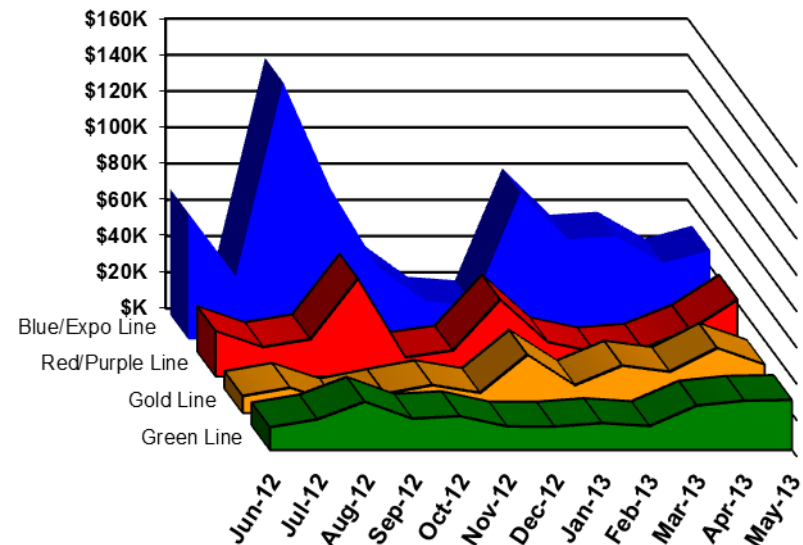


Vandalism & Graffiti Report

May 2013

	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Year-to-Date
Blue/Expo Line	\$69K	\$35K	\$142K	\$83K	\$40K	\$21K	\$19K	\$81K	\$55K	\$57K	\$42K	\$49K	\$693K
Red/Purple Line	\$25K	\$16K	\$20K	\$54K	\$10K	\$14K	\$42K	\$19K	\$13K	\$15K	\$26K	\$42K	\$297K
Green Line	\$12K	\$17K	\$27K	\$17K	\$19K	\$13K	\$13K	\$15K	\$13K	\$24K	\$27K	\$28K	\$225K
Gold Line	\$9K	\$14K	\$5K	\$11K	\$15K	\$11K	\$32K	\$15K	\$26K	\$23K	\$36K	\$27K	\$225K
Totals:	\$116K	\$82K	\$194K	\$165K	\$84K	\$59K	\$106K	\$130K	\$108K	\$119K	\$131K	\$146K	\$1,440K

May 2013 Vandalism & Graffiti - All Rail				
	Qty	Labor	Materials	Totals
Windows replaced	67	\$6,552	\$11,067	\$17,619
Vandal Shields	646	\$19,048	\$8,468	\$27,516
Seats Cleaned	555	\$2,338	\$0	\$2,338
Seats Replaced	733	\$23,090	\$29,581	\$52,671
Graffiti removal - other	1,127	\$23,355	\$10,015	\$33,370
Repainting panels	28	\$11,441	\$826	\$12,267
Totals	3,156	\$85,824	\$59,957	\$145,781



Graffiti Pictures May 2013

Blue Line



Green Line



Gold Line

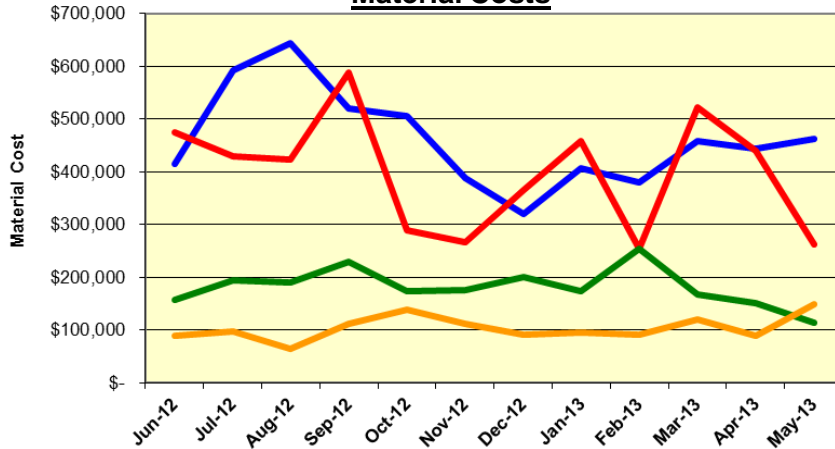


Material and Labor Costs

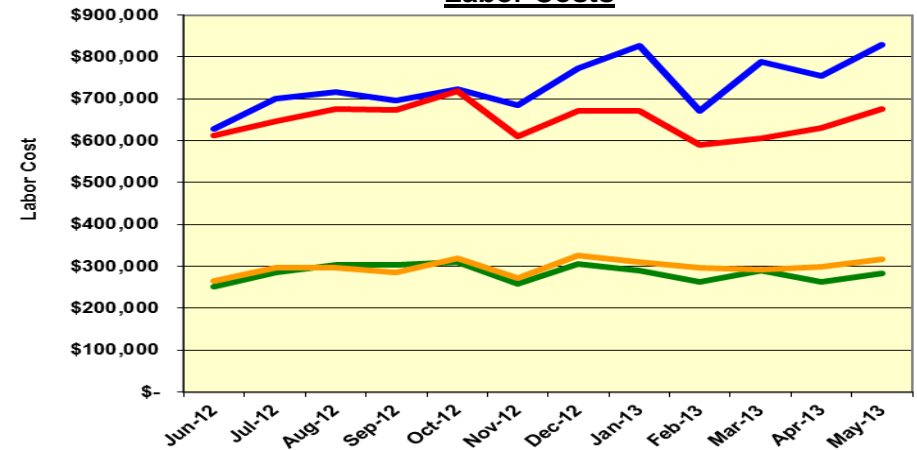
May 2013

MATERIALS	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13
Blue/Expo Lines	\$ 414,601	\$ 591,928	\$ 643,006	\$ 520,023	\$ 506,591	\$ 388,758	\$ 320,127	\$ 407,585	\$ 379,796	\$ 457,700	\$ 444,569	\$ 463,311
Red/Purple Lines	\$ 474,908	\$ 428,864	\$ 424,173	\$ 587,362	\$ 289,365	\$ 265,900	\$ 365,489	\$ 458,038	\$ 254,026	\$ 522,856	\$ 440,708	\$ 263,158
Green Line	\$ 157,920	\$ 194,003	\$ 189,811	\$ 230,008	\$ 174,361	\$ 175,923	\$ 200,257	\$ 173,693	\$ 254,286	\$ 166,766	\$ 151,982	\$ 114,311
Gold Line	\$ 88,885	\$ 98,449	\$ 64,112	\$ 112,270	\$ 138,235	\$ 111,198	\$ 90,479	\$ 95,355	\$ 91,890	\$ 120,086	\$ 89,212	\$ 149,564
Totals	\$ 1,136,314	\$ 1,313,244	\$ 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

Material Costs



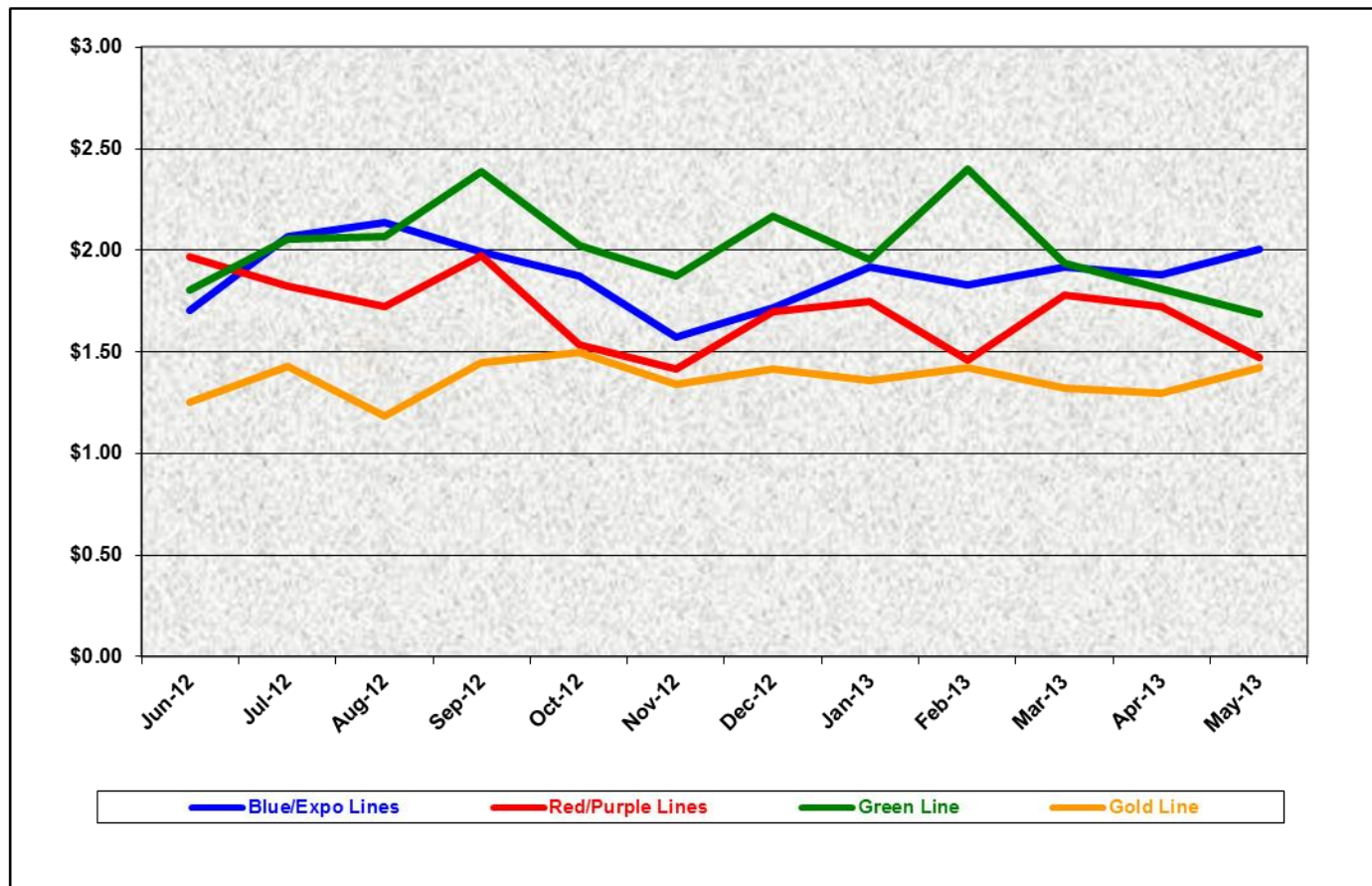
Labor Costs



LABOR	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13
Blue/Expo Lines	\$ 628,928	\$ 699,849	\$ 716,987	\$ 695,926	\$ 722,379	\$ 683,896	\$ 772,382	\$ 827,656	\$ 671,298	\$ 788,111	\$ 755,561	\$ 829,721
Red/Purple Lines	\$ 613,032	\$ 645,748	\$ 676,501	\$ 674,192	\$ 718,139	\$ 610,872	\$ 671,039	\$ 671,792	\$ 590,750	\$ 605,903	\$ 631,518	\$ 675,950
Green Line	\$ 251,094	\$ 286,110	\$ 304,066	\$ 304,487	\$ 309,399	\$ 258,637	\$ 306,761	\$ 290,453	\$ 261,863	\$ 289,639	\$ 263,955	\$ 282,841
Gold Line	\$ 264,536	\$ 296,565	\$ 296,078	\$ 286,489	\$ 318,284	\$ 272,259	\$ 326,736	\$ 311,060	\$ 297,422	\$ 292,452	\$ 298,759	\$ 317,387
Totals	\$1,757,590	\$1,928,272	\$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

Cost Per Mile May 2013

Cost per mile:	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Average
Blue/Expo Lines	\$1.70	\$2.07	\$2.14	\$1.99	\$1.87	\$1.57	\$1.72	\$1.92	\$1.83	\$1.92	\$1.88	\$2.01	\$1.88
Red/Purple Lines	\$1.97	\$1.83	\$1.73	\$1.97	\$1.53	\$1.41	\$1.70	\$1.75	\$1.46	\$1.78	\$1.72	\$1.47	\$1.69
Green Line	\$1.81	\$2.05	\$2.07	\$2.39	\$2.02	\$1.88	\$2.17	\$1.96	\$2.40	\$1.94	\$1.81	\$1.68	\$2.01
Gold Line	\$1.25	\$1.43	\$1.18	\$1.45	\$1.50	\$1.34	\$1.42	\$1.36	\$1.42	\$1.32	\$1.30	\$1.43	\$1.37



No facility costs are included

ATU Absences vs. Overtime

May 2013

ABSENCE TYPE and HOURS	3940 Admin.	3941 Blue	3942 Red	3943 Green	3944 Gold	3947 Expo	Total
BER-BEAVEMENT	0.00	80.00	8.00	0.00	0.00	0.00	88.00
CTO-COMPENSATORY TIME OFF	64.00	547.33	780.25	159.00	262.05	10.00	1,822.63
CUT-EMPLOYEE LEAVES EARLY	0.00	0.74	0.00	0.00	0.50	0.00	1.24
CVA - CASUAL VACATION	48.00	88.00	240.00	96.00	152.00	0.00	624.00
DSL-DISABILITY LEAVE/LONG	0.00	728.00	176.00	408.00	184.00	0.00	1,496.00
EFH-EMG. FLOAT HOL.	0.00	0.00	104.00	32.00	8.00	0.00	144.00
ETO-EXCUSED TIME OFF	11.23	49.00	38.13	9.00	49.40	2.00	158.76
FMI-FAM IND INJURY	0.00	0.00	88.00	24.00	0.00	0.00	112.00
FML-FAMILY CARE LEAVE	0.00	527.58	401.50	275.60	224.00	0.00	1,428.68
FMS-FAMILY LEAVE SICK	0.00	96.00	256.50	128.80	118.40	0.00	599.70
HLF-HOLIDAY FLOATING	16.00	440.00	432.00	164.00	132.00	16.00	1,200.00
HNP-HOLIDAY NOT PAID	0.00	18.00	0.00	8.00	8.00	0.00	34.00
HOL-HOLIDAY LEGAL	48.00	534.00	552.00	128.00	144.00	32.00	1,438.00
II-INDUSTRIAL INJURY	0.00	0.00	8.00	184.00	0.00	0.00	192.00
IIR-INDUS INJURY-REOCCUR.	0.00	0.00	192.00	0.00	0.00	0.00	192.00
IPD-INJURED PARTIAL DAY	0.00	0.00	4.00	0.00	0.00	0.00	4.00
JUR-JURY DUTY	0.00	120.00	32.00	0.00	0.00	24.00	176.00
LC1-LABOR CODE 233	32.00	176.00	229.25	82.28	96.00	8.00	623.53
LT-OCPCIL/LONGTRM INJ LEAVE	0.00	32.00	0.00	152.00	0.00	0.00	184.00
MLN-MILITARY ABSENCE-UNPAID	0.00	0.00	0.00	24.00	0.00	0.00	24.00
OWP-OFF WITH PERMISSION	0.00	0.00	9.42	0.00	0.00	0.00	9.42
RTO-REQUESTED TIME OFF-NO PA	0.00	91.58	8.00	23.50	0.00	0.00	123.08
SCK-SICK PAY	0.00	273.50	104.00	49.50	76.00	24.00	527.00
SCW-SICK WITHOUT PAY	0.00	56.00	20.00	16.00	52.00	0.00	144.00
SPN-SCHOOL PARTNER NOT PAID	0.00	0.00	0.00	8.00	8.00	0.00	16.00
TAR-TARDY	0.00	0.79	2.72	2.82	0.00	0.00	6.33
VAC-VACATION	16.00	881.39	913.33	421.50	416.00	24.00	2,672.22
Total Absence Hours	235	4,740	4,599	2,396	1,930	140	14,041
ATU Number of Work Force (assigned)	7	121	111	48	48	6	341
Full Work Force hours/month	1,213	20,969	19,236	8,318	8,318	1,040	59,095
Absence as a % of Work Force	19%	23%	24%	29%	23%	13%	24%
OVERTIME TYPE and HOURS	3940	3941	3942	3943	3944	3947	Total
CTB-COMPENSATORY TIME TO BANK	4	68	30	24	16	32	173
OTP-PREM OVERTIME	591	5807	4908	2519	1744	213	15783
WLO-Worked Lunch Overtime	69	136	174	137	98	9	622
Total	664	6010	5112	2679	1858	253	16578
Overtime as a % of Work Force	55%	29%	27%	32%	22%	24%	28%
UNCOVERED ABSENCES	3940	3941	3942	3943	3944	3947	Total
Absences FTE	1	27	27	14	11	1	81
OTP FTE	4	35	29	15	11	1	96
FTE Difference	-3	-8	-2	-1	0	0	-15

Note: Overtime also covers other required activities.



Metro

Rail Vehicle Engineering Project Summary

May 2013

Preparation of Engineering Technical Specifications	Tracking #	Status
Red Line AC Gear Box (Rev. 0)	A650/TS/026	IFB 12-0024, Low bidder IM&E
MBL Battery Set	P865/P2020/TS/069	Draft in review
Vital Relay Calibration P865/P2020	Sole Source	In Process by Procurement
Windows glass and rubber glazing specification	P865-P2020/TS-066	Single bid - NASG
Friction Brake Kit Less Air Compressor Overhaul	P2000/TS/035 Rev 0	Released to Procurement for bid - SS was signed - Awarded to Wabtec
A650 Battery Specification	A650/TS/39	Released to Procurement for bid - Hoppeke delivered 1st article for testing and approval.
Powered Axle Overhaul SOW	P865-P2020/TS/063 and 052	In Process by Procurement
Seat Insert	P865-P2020/TS/62	Released to Procurement - Awarded to Sardo
		*Released to Procurement for bid - Dealing with Flender as OEM
		*Competitive bid is In Process by Procurement
Red Line DC Gear Box	P650/TS/040 Rev. 0	Both bids are on Hold
Red Line DC Gear Box - New gearbox design	A650/TS/044 Rev. 0	Final review
Vandal Shield for all lines	A650-P865-P2000-P2550/TS/012	Released to Procurement- Contract awarded
Aux power supply equipment (APSE) - Static Inverter	P865-P2020/TS/065 Rev. 0 [2 Parts]	In Process by Procurement - bid extended to 06/04/13
Tire kit specification	P865-P2020/TS/064	IFB-13-0043 due on 06/25/13
Tire kit specification	P2000/TS/018	IFB-13-0043 due on 06/25/13
Red Line (Base Buy) DC Traction Motor		Released to Procurement - First article from HMI is required for vendor qualification and approval before releasing the contract.
	P650/TS/041	
MBL HVAC Compressor	P865/P2020/TS/067 Rev. 0	Released to Procurement - Transicold is the low bidder
Head Sign LED	P2000/TS/xx	Draft in process
Chevron springs		Released to Procurement for bid - IFB 13-0015 In Process by Procurement -GMT is the low bidder. Required 1st article for testing and approval.
	P865/P2020/TS/068 Rev. 0	
Filter-Fresh Air	P2550/TS/004	In review process
Filter-Return Air	P2550/TS/005	In review process
Chopper Air Filter	P865-P2020/TS/050	Draft in review
Motor Alternator Filter	P865-P2020/TS/051	Draft in review
Inverter Air Filter	A650/TS/036	Draft in review
Pantograph	P2550/TS/006	Draft in review
General - All Lines		Status
Roadway Worker Protection		CPUC/Installing ProTran1 Device-P865/P2020/P2000 completed, A650/P2550 in installation
Fleet Failure Analysis		CH2M Hill - LTK
New Radios installed to replace old radios		Meeting 3/7/2012-Contract awarded, MBL and P2000 completed. A650 in installation process P2550 in prototype completed.
Bike Space		P2000/P2550/A650 Fleet modification completed.
St. Louis LRV		Testing flooring for fire rating - investigating computability.
Proposed Spread Spectrum Frequency Hopping technology for vehicle door control safety system all lines.		Consider Protran system (FCC15 passed) as the first prototype to try. Work in progress to cosider system design, test and installation. Estimate to be developed for installation costs for Project.
P2550 & P2000 OCS & EMI measurements Gold, Green, Blue lines		Final Test Report
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.

Rail Vehicle Engineering Project Summary (cont'd)

May 2013

P2000 Overhaul Program		Status
Mapping mainline		Conducted mapping the entire line in 2 weeks for ATP/ATO/TWC - Correction made
Master Controller - Bombardier Refurbish		Ongoing Program
RSS and EOSS Bundle Cables/Connectors		In Progress - Glenair
TWC Calibration procedure.		TWC calibration procedures completed. Issued and Training completed at Division.
Speed Sensors		Testing new speed sensors from Smith System
Friction Brake failure investigation		Metro technical team with Wabtec (OEM) ongoing investigation.
Coupler Overhaul		In Progress - Spec in developing process for fleet overhaul.
Bombardier Engineering Team visit and provide OEM support on Speed Sensor, EMI, MC,...and other issues		In Progress
Prototype "smart" automatic sanding circuit on P2000 vehicle.		In Progress
P865/P2020 Program		Status
Remove the remotely reset CB1 Breaker		Fleet modification completed.
"G" force measurement on Transponder installed on P865/P2020		H&K installed "G" sensor on transponder and collected data for analysis - 03/08/12. New carbody mounted bracket were tested and completed fleet modification. New antennas are in installation progress.
Under seat - No motion relays		ABB Prototype installed on 07/24/12 for one month test period. Test was successful. In process of procuring kits.
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.
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.
Cardan Failure Investigation		Lab testing failed components and evaluate those in service - Kar's Lab
A650 Overhaul Program		Status
Investigate car 505/506		Satatic test completed, dynamic yard test completed, mainline dynamic test scheduled the week of 12/10.
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.
ABI New Traction Motor Mount		ABI for Fleet Modification in progress. A total of seventy seven (94) trucks were completed.
Friction Brake Kit Overhaul		Overhaul program in place - Wabtec
Ribbed Rubber Flooring PRF		Dealing with OEM - PRF. Delivery schedule by end of May.
Door Operator Gearbox and Rollers Overhaul		In Progress - Buying kits from Vapor Stone to overhaul GB and motor in house.
H-4 electronic units		Unit upgrade - Fleet issues (Wabtec) to provide new unit proposal.
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.
HVAC Evaporator AC motor/Inverter		Testing 1st article from Vapor Stone on one car. Spec in development for Procurement.
Traction motor Blower- AC motor/Inverter		Testing 1st article from ATS on one car. Spec in development for Procurement.

Rail Vehicle Engineering Project Summary (cont'd)

May 2013

	P2550	Status
Vehicle Acceptance		Fifty cars have been Final Accepted.
3P Flip Up Seat Finger Guard		Submitted SS to Procurement - Testori - 2nd prototype received and requires modification to Exec Officers comments.
Find alternative Vendor for Reverse Engineer PCB Boards P2550		In Progress
Compressor Desiccant Material		Prototype Canistor fitting manufactured and tried at MGLD. Air leak present. Knorr to investigate installation procedure or O ring issues.
Rubber Boots (High Voltage)		In Progress - Vulcanite. Bought from OEM through A&E Telecom.
Cyclope light and Destination Sign Glass		In Progress - NASG
Ground Brush Schunk (Lamellar Seal failure investigation)		Awaiting ABI/Schunk final update. ABI/Schunk recommended to remove all Lamellar seals, Metro requested an FMI.
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.
Lateral shock absorber		Investigating the failure of the resilient bushing. ABI will change the Gimo to ZF type on the entire fleet.
EMI/EMC on AM Broadband (540KHz-1610KHz)		Research on instrumentation that can capture harmonics up to AM Broadband.
TWC Testing		Investigate TWC performance issue on B end of Vehicle. LTK to issue final report of findings to date.
	Expo	Status
P2000 Couple/un-couple issues		Investigation completed - Test was successful - Fleet modification in process.
Mapping entire MBL and Expo line		Mapped entire MBL and Expo line ATP/ATO/Line voltage/ track signals.
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 take place 02/14/13.
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.
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.
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.
Support B&C by testing car on La Cienega		B&C Engineer and Wayside will be on site to adjust cab signals.

QA-Warranty Program Projects Summary

May 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.
- P2550 (Lamellar Seal) Truck Resilient Pin Bushing fleet failure declared (Action pending ABI)
- A650 Base Buy & Option Car Fleet Warranty Truck Frame Mod Campaign (113 of 216 Trucks modified to date). MRL Warranty Cost Avoidance savings accrued to date \$847,500.
- On-Going, Management's Special Interest Phase-2 Supplemental Inspections, MBL & MGL P2000 Fleet 7 of 52 cars completed
- QA PMI Audits, Spot Checks, Surprise/Unannounced Audits performed (7)

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 2013

Training classes completed during the month of May 2013

Description	Course Hours	Student Count	Training Hours
Blue & Expo Line Training - (P865/2020 & P2000 LRV):			
RFS SIEMENS 2000 GE HARMON ATP	16	9	144
RFS SIEMENS 2000 PANTOGRAPH	8	8	64
RFS SIEMENS 2000 AUX. INVERTER	32	8	256
DRUG AND ALCOHOL (SAFETY SENSITIVE)	2	35	70

Total Blue Line Training (Hours): 534

Red Line Training (Breda A650 HRV):

RFS 2-WEEK RAIL INTRODUCTION	80	6	480
DRUG AND ALCOHOL (SAFETY SENSITIVE)	2	25	50

Total Red Line Training (Hours): 530

Green Line Training (P2000 LRVs):

RFS SIEMENS 2000 LIGHTS & DEST SIGN	16	5	80
RFS SIEMENS 2000 COUPLER	8	5	40
RFS SIEMENS 2000 T/B, SANDERS	8	5	40
RFS SIEMENS 2000 TRUCK	32	5	160
RFS SIEMENS 2000 PANTOGRAPH	8	5	40
RFS SIEMENS 2000 CARBODY	24	5	120
RFS SIEMENS 2000 VEHICLE SYSTEMS	48	5	240
DRUG AND ALCOHOL (SAFETY SENSITIVE)	2	3	6

Total Green Line Training (Hours): 726

Gold Line Training (P2550 LRVs):

RFS ANSALDOBREDA 2550 DOORS	32	2	64
RFS ANSALDOBREDA 2550 FRICTION BRAKES	40	2	80
DRUG AND ALCOHOL (SAFETY SENSITIVE)	2	6	12

Total Gold Line Training (Hours): 156

Total RFS Instruction for the month of May 2013 (Hours): 1,946

Other Instruction Activities

P2550 Auto Announc. Testing	40
P2000 Vehicle Course Preparation	128
P2550 Vehicle Course Preparation	40
Int'l Rail Rodeo in Philadelphia	40
Red Line Engineering Support	80

Total Other Instruction Activities 328.0

Core Vehicle Training Completed: BLUE RED GREEN GOLD

Percentage of core vehicle training complete:	73.9%	96.8%	85.0%	83.7%
Siemens P2000 training complete:	48.3%	N/A	N/A	N/A

Average Specialist Rail Experience Level in Years: 11.2 10.4 9.4 9.8

Core Training Completed

