



# **Rail Fleet Services Monthly Report December 2012**

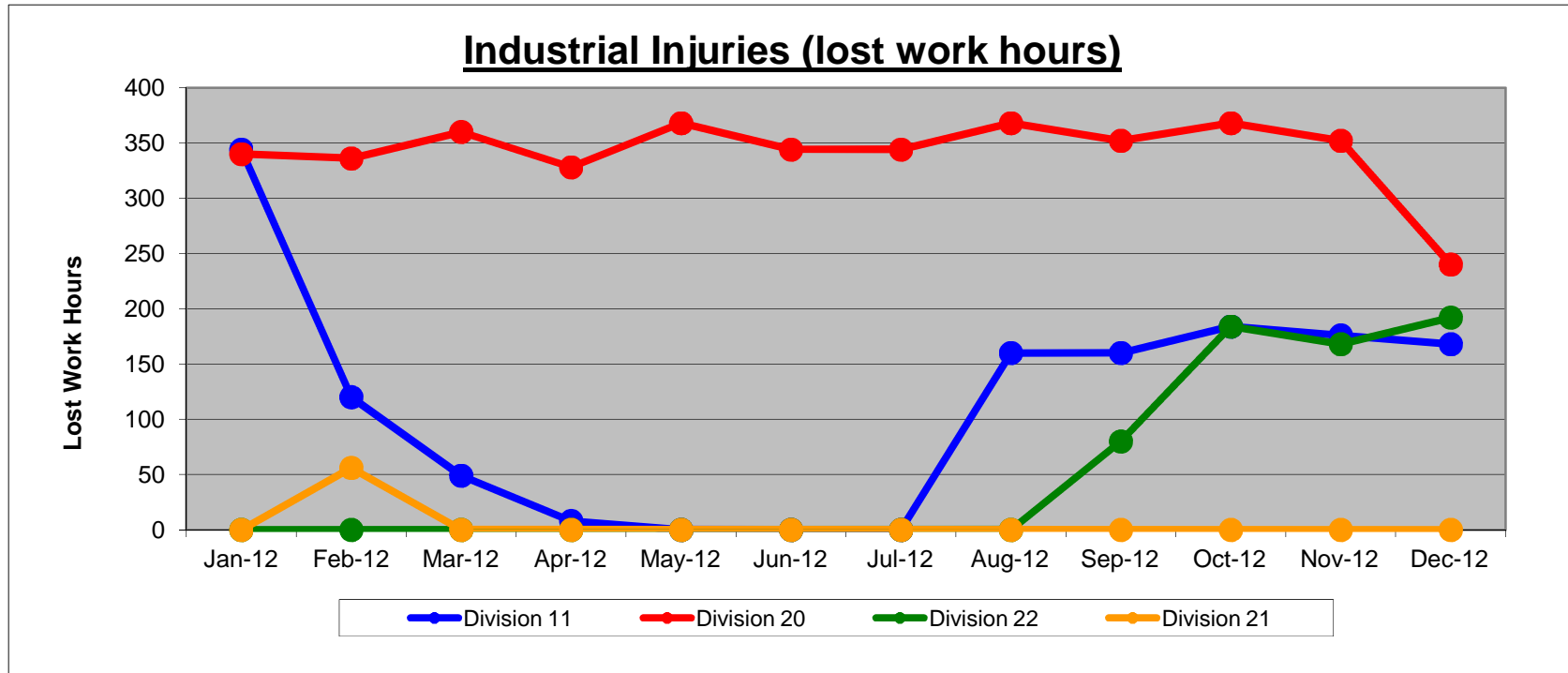


**Metro**

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# Industrial Injuries – Lost Work Hours December 2012



	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Year to Date
Division 11	344	120	49	8	0	0	0	160	160	184	176	168	1,369
Division 20	340	336	360	328	368	344	344	368	352	368	352	240	4,100
Division 22	0	0	0	0	0	0	0	0	80	184	168	192	624
Division 21	0	56	0	0	0	0	0	0	0	0	0	0	56
Totals	684	512	409	336	368	344	344	528	592	736	696	600	6,149

# Rail Vehicle Accidents & Major Incidents

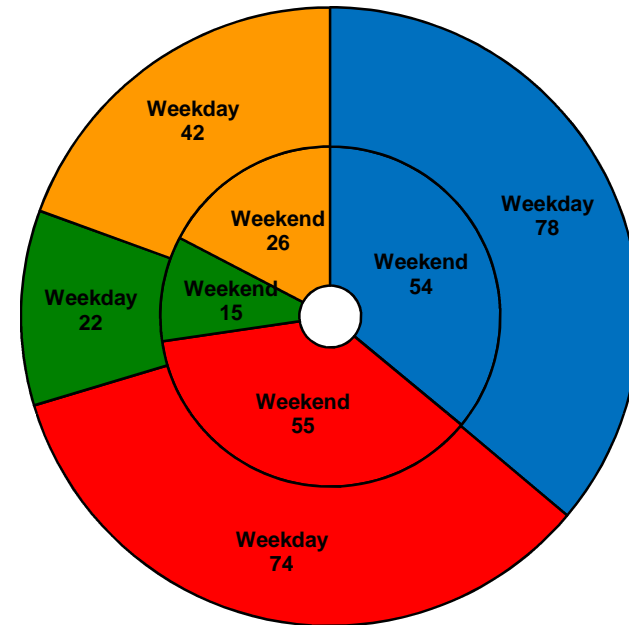
## December 2012

Repair Costs	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Totals
Blue/Expo Line	\$4,704	\$5,087	\$18,570	\$2,675	\$1,718	\$1,186	\$674	\$8,226	\$4,726	\$1,668	\$494	\$5,262	\$54,990
Red/Purple Line	\$0	\$0	\$0	\$1,115	\$571	\$0	\$0	\$0	\$778	\$0	\$0	\$0	\$2,464
Green Line	\$0	\$0	\$0	\$989	\$0	\$0	\$120	\$0	\$0	\$0	\$0	\$503	\$1,612
Gold Line	\$0	\$0	\$4,134	\$0	\$0	\$752	\$0	\$1,583	\$0	\$0	\$0	\$0	\$6,469
Totals	\$4,704	\$5,087	\$22,704	\$4,779	\$2,289	\$1,938	\$794	\$9,809	\$5,504	\$1,668	\$494	\$5,765	\$65,535

Rail Vehicle Accident Costs - December 2012				
Metro Blue Line				
Date	Incident #	Problem code	Incident Description	Cost
12/13/2012	2262387	Train vs. Vehicle	A 10-73 was reported with train 1 going southbound on track 2 at Elm Street Grade Crossing.	\$2,043.00
12/21/2013	2265475	Train vs. Vehicle	A 10-73 was reported on track 2 going southbound at Flower and 18th Street.	\$3,219.00
				<b>5,262.00</b>
Metro Green Line				
12/8/2013	2260817	Derailment	A 10-75 drill occurred at Marine Station on platform 1.	\$503.00
				<b>503.00</b>
GRAND TOTAL				<b>\$5,765.00</b>
(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 December 2012

<b>Blue/Expo Line Fleet Size: 92</b>			
	<u>Vehicles</u>	<u>Average</u>	<u>% Up</u>
<u>Pull Out</u>	<u>Required</u>	<u>Available</u>	<u>(Down)</u>
Weekday:	78	79	101%
Weekend:	54	63	117%
Late Pullouts: 1 *			
Monthly Mileage: 636,810			
<b>Red/Purple Line Fleet Size: 104</b>			
	<u>Vehicles</u>	<u>Average</u>	<u>% Up</u>
<u>Pull Out</u>	<u>Required</u>	<u>Available</u>	<u>(Down)</u>
Weekday:	74	83	112%
Weekend:	55	66	120%
Late Pullouts: 0 *			
Monthly Mileage: 610,170			
<b>Green Line Fleet Size: 29</b>			
	<u>Vehicles</u>	<u>Average</u>	<u>% Up</u>
<u>Pull Out</u>	<u>Required</u>	<u>Available</u>	<u>(Down)</u>
Weekday:	22	22	102%
Weekend:	15	17	112%
Late Pullouts: 0 *			
Monthly Mileage: 233,527			
<b>Gold Line Fleet Size: 50</b>			
	<u>Vehicles</u>	<u>Average</u>	<u>% Up</u>
<u>Pull Out</u>	<u>Required</u>	<u>Available</u>	<u>(Down)</u>
Weekday:	42	43	103%
Weekend:	26	42	162%
Late Pullouts: 0 *			
Monthly Mileage: 294,246			



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

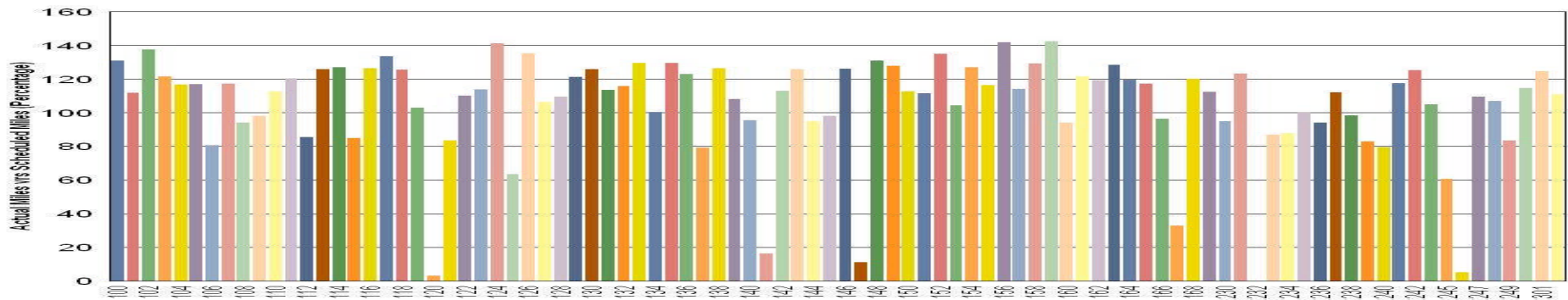


**Metro**

\* Due to a vehicle -related problem

# Vehicle Utilization December 2012

## Metro Blue/Expo Line Fleet



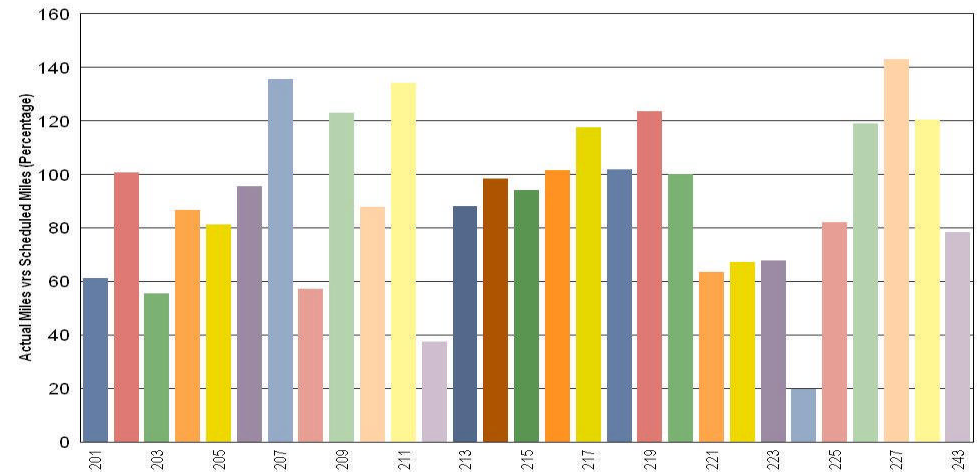
### Blue/Expo Lines:

- 120 Vehicle held out of service due to repeated friction brake faults.
- 141 Vehicle held out of service due to an ATP problem.
- 147 Vehicle held out of service due to friction brake faults.
- 167 Vehicle held out of service due to friction brake faults.
- 232 Vehicle held out of service due to propulsion and announcement faults.
- 246 Vehicle held out of service due to friction brake faults.

### Green Line:

- 212 Vehicle held out of service due troubleshooting and repair for braking/stalling issues.
- 224 Vehicle held out of service due troubleshooting related to repeating electro magnetic interference faults.

## Metro Green Line



# Vehicle Utilization December 2012

## Red/Purple Lines:

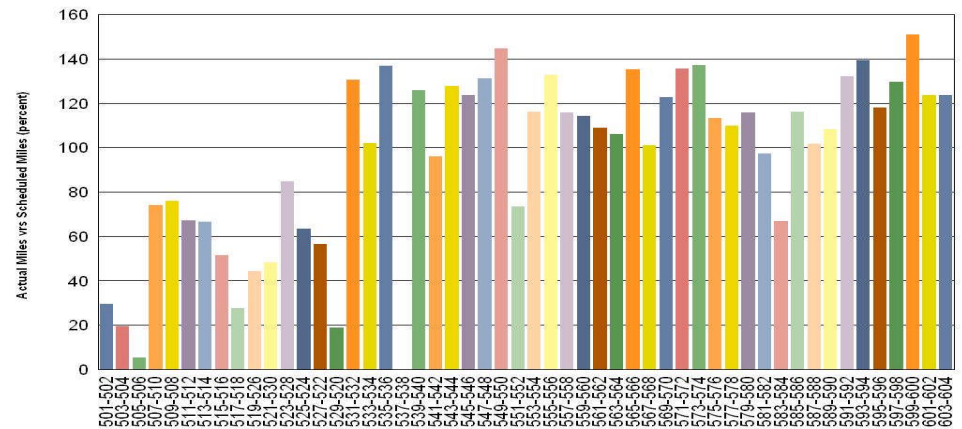
Explanation for under-used vehicles:

- 501-502 Vehicle held out of service due to no stock on parts. Repair finalization is in progress with a release date of 1/18/13.
- 503-504 Vehicle held out of service due to no stock on parts. Vehicle has been repaired and released into service on 12/7/12.
- 505-506 Vehicle held out of service due to reliability testing. Vehicle has been released back into service on 1/11/13.
- 517-518 Vehicle has been held out of service due to no stock on parts. Vehicle has been repaired and released into service on 12/11/12.
- 529-520 Vehicle has been held out of service due to defective new parts. Mitigation plans will replace resistor grids with a target date of 1/18/13.
- 537-538 Vehicle has been held out of service due to no stock on parts. Work is in progress with a target date of 1/23/13 for releasing vehicle back into service.

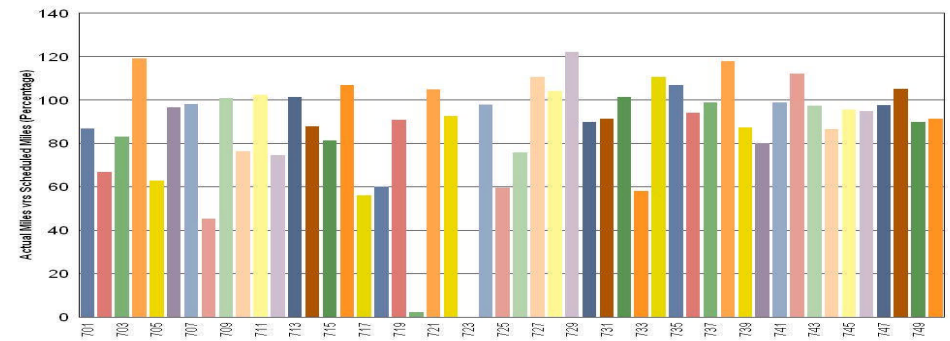
## Gold Line:

- 720 Vehicle held out of service due to burned HVAC 208 VDC wiring issues. Vehicle went back into service on 12/31/12.
- 723 Vehicle held out of service due to burned HVAC contactor and wiring. Vehicle remains under warranty and is currently awaiting parts.

## Metro Red/Purple Lines

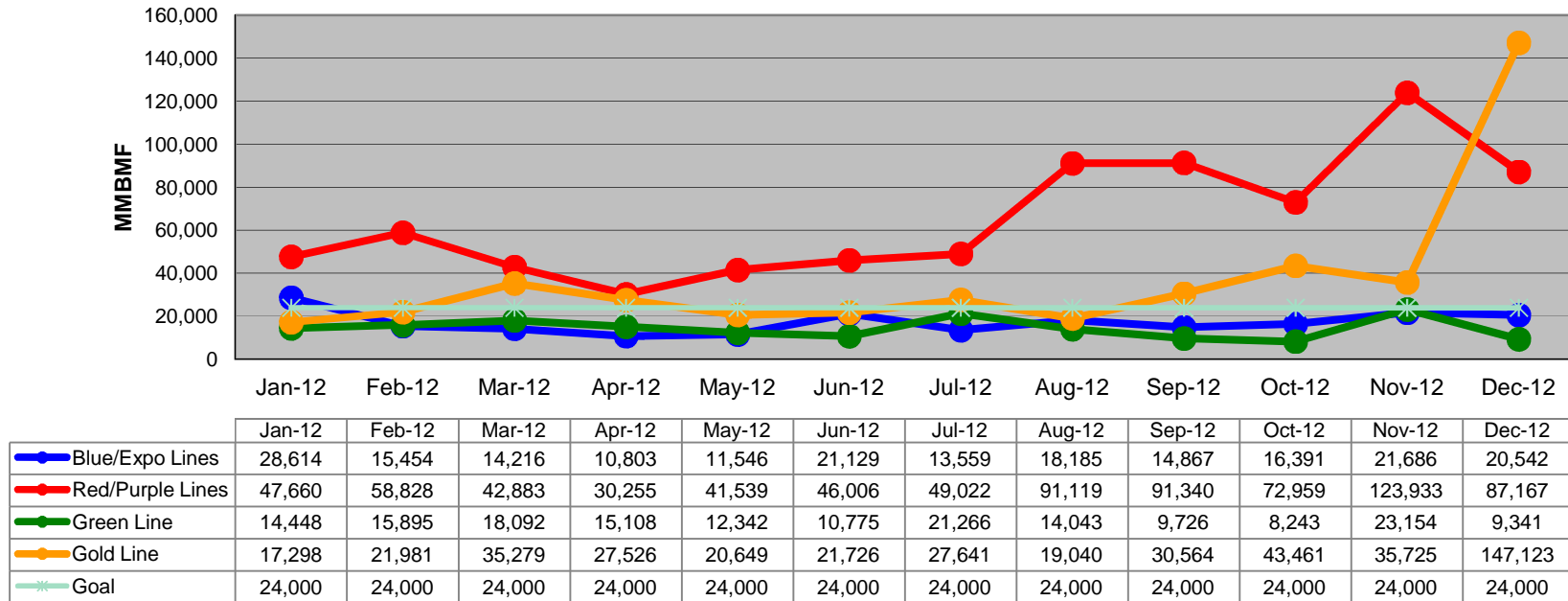


## Metro Gold Line

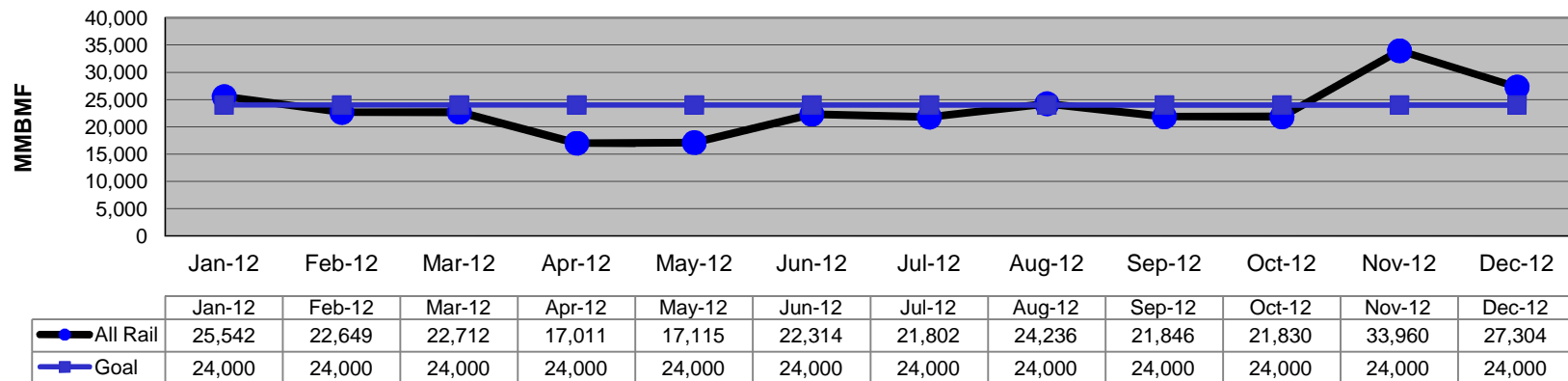


# Mean Miles Between Failures (Major) Year to Date

**Mean Miles Between Major Failures (12 months)**



**Mean Miles Between Major Failures (all)**

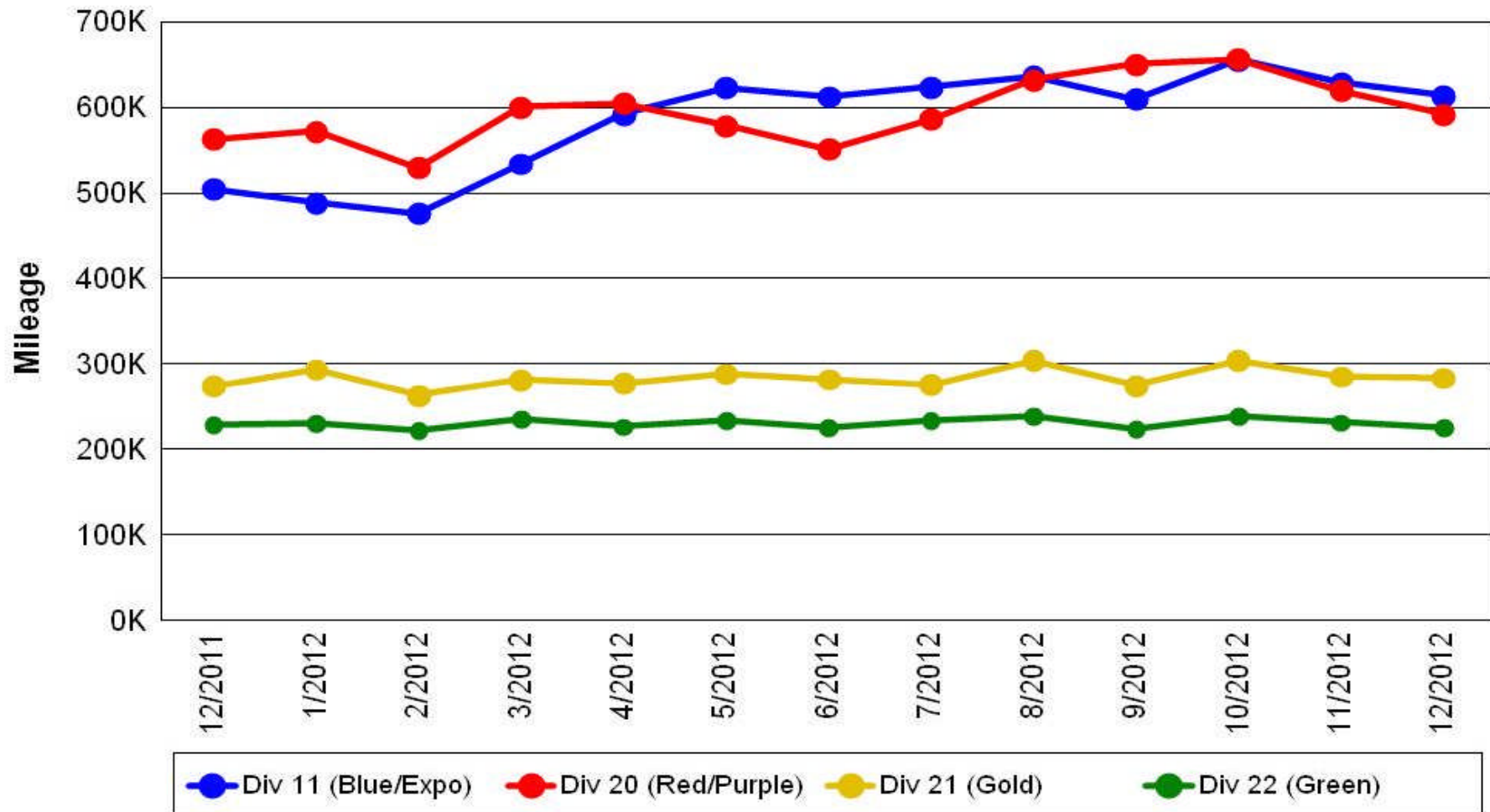




# Mileage Between Data Range (by month)

## December 2012

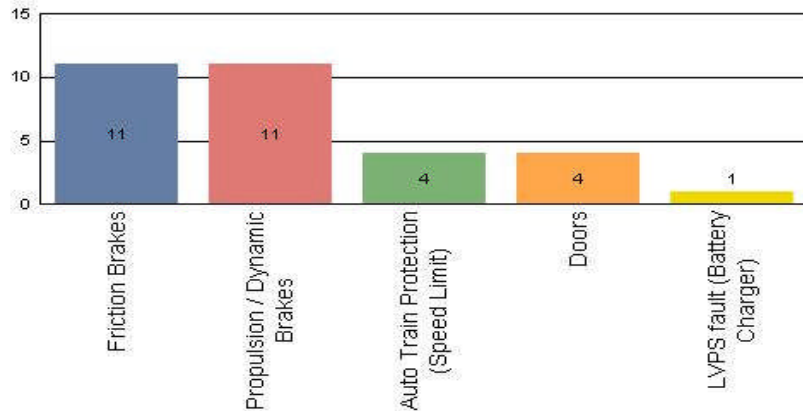
### Rail Division Monthly Mileage



# Major Incidents December 2012

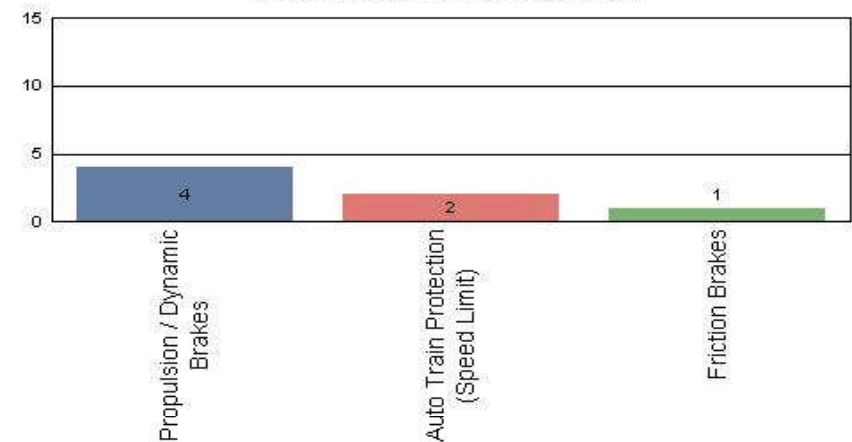
## Metro Blue/Expo Line

Top Incident Categories



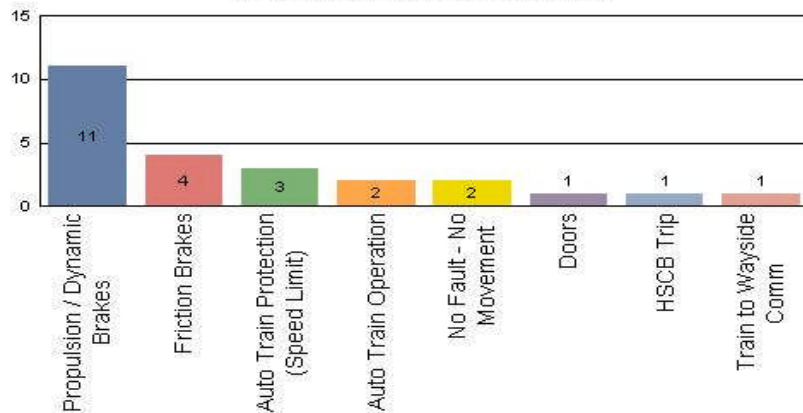
## Metro Red/Purple Line

Top Incident Categories



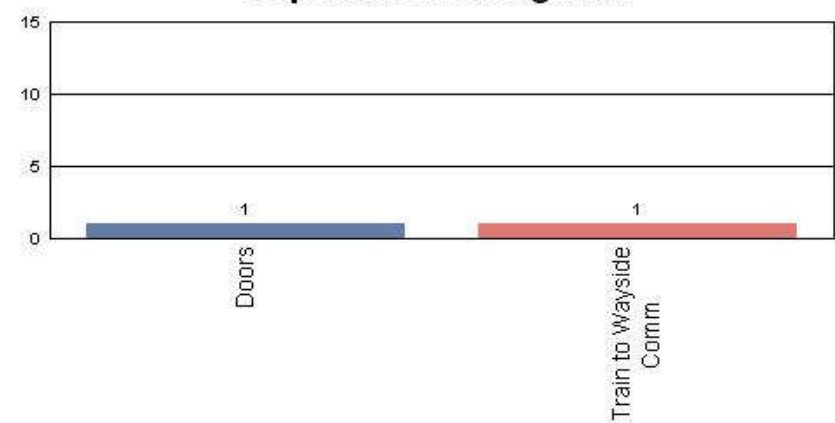
## Metro Green Line

Top Incident Categories



## Metro Gold Line

Top Incident Categories



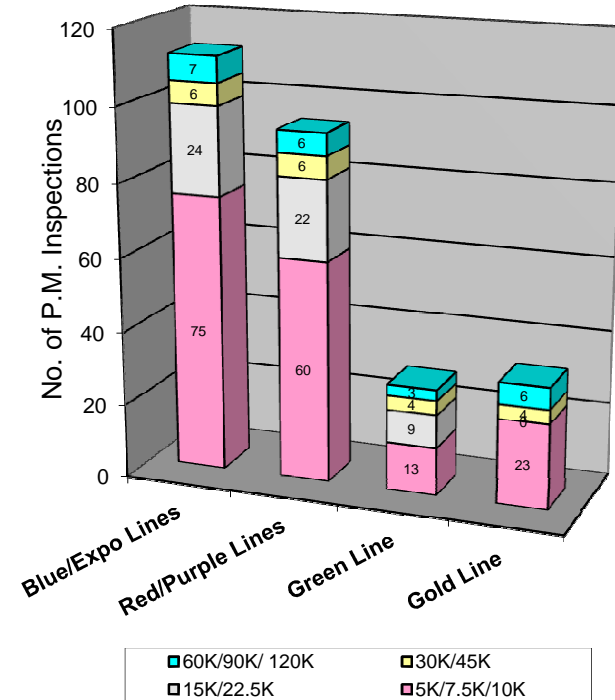
# Preventive Maintenance Compliance

## December 2012

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

Number of Preventive Maintenance Inspections - December 2012					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	75	24	6	7	112
Red/Purple Lines	60	22	6	6	94
Green Line	13	9	4	3	29
Gold Line	23	0	4	6	33
Totals:	171	55	20	22	268

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

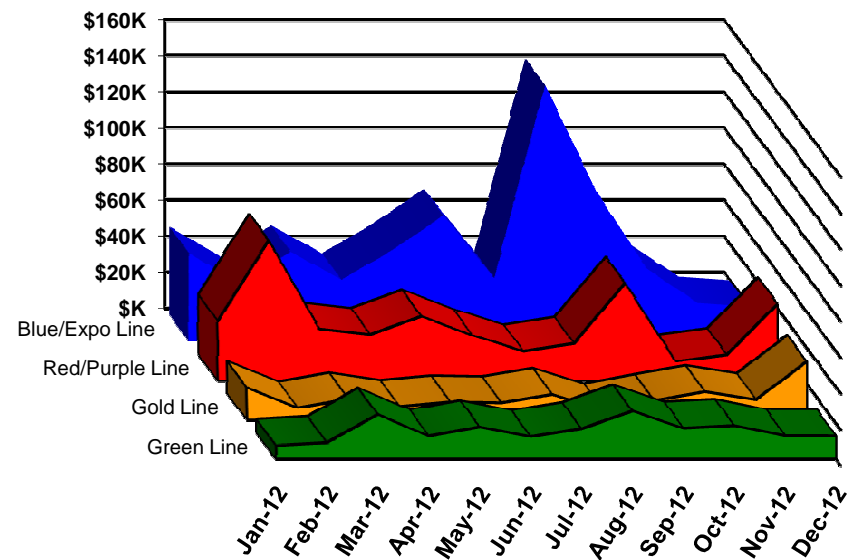


# Vandalism & Graffiti Report

## December 2012

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Year-to-Date
Blue/Expo Line	\$49K	\$32K	\$49K	\$34K	\$50K	\$69K	\$35K	\$142K	\$83K	\$40K	\$21K	\$19K	\$623K
Red/Purple Line	\$33K	\$77K	\$28K	\$25K	\$35K	\$25K	\$16K	\$20K	\$54K	\$10K	\$14K	\$42K	\$382K
Green Line	\$8K	\$9K	\$25K	\$13K	\$18K	\$12K	\$17K	\$27K	\$17K	\$19K	\$13K	\$13K	\$190K
Gold Line	\$18K	\$7K	\$11K	\$7K	\$10K	\$9K	\$14K	\$5K	\$11K	\$15K	\$11K	\$32K	\$151K
Totals:	\$107K	\$125K	\$114K	\$79K	\$113K	\$116K	\$82K	\$194K	\$165K	\$84K	\$59K	\$106K	\$1,345K

December 2012 Vandalism & Graffiti - All Rail				
	Qty	Labor	Materials	Totals
Windows replaced	24	\$9,053	\$11,606	\$20,659
Vandal Shields	810	\$25,064	\$9,975	\$35,039
Seats Cleaned	965	\$2,617	\$0	\$2,617
Seats Replaced	227	\$7,151	\$15,804	\$22,955
Graffiti removal - other	1,018	\$16,170	\$4,136	\$20,306
Repainting panels	15	\$4,100	\$705	\$4,805
Totals	3,059	\$64,155	\$42,226	\$106,381



# Graffiti Pictures December 2012

Blue Line



Green Line



Gold Line

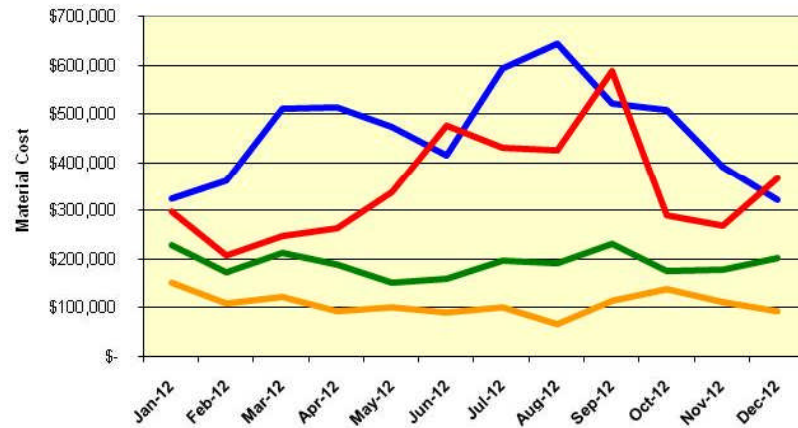


# Material and Labor Costs

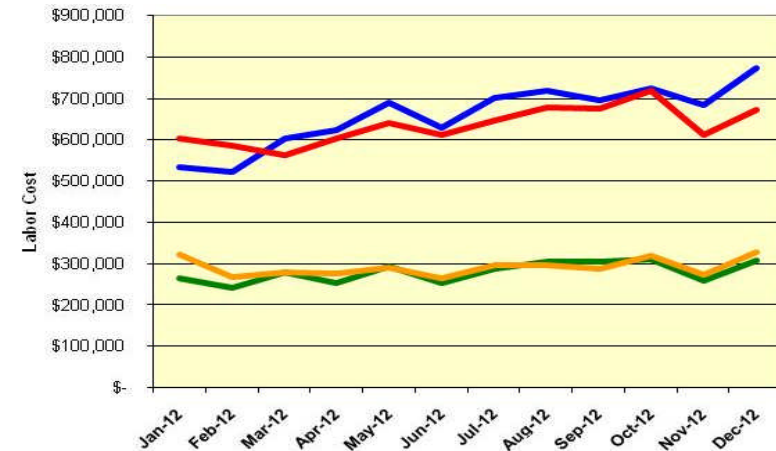
## December 2012

<b>MATERIALS</b>	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12
Blue/Expo Lines	\$ 322,169	\$ 359,911	\$ 510,512	\$ 511,185	\$ 473,281	\$ 414,601	\$ 591,928	\$ 643,006	\$ 520,023	\$ 506,591	\$ 388,758	\$ 320,127
Red/Purple Lines	\$ 296,353	\$ 205,225	\$ 244,902	\$ 260,532	\$ 335,824	\$ 474,908	\$ 428,864	\$ 424,173	\$ 587,362	\$ 289,365	\$ 265,900	\$ 365,454
Green Line	\$ 227,110	\$ 172,152	\$ 210,220	\$ 186,572	\$ 149,660	\$ 157,920	\$ 194,003	\$ 189,811	\$ 230,008	\$ 174,361	\$ 175,923	\$ 200,257
Gold Line	\$ 150,971	\$ 106,736	\$ 121,821	\$ 91,218	\$ 98,407	\$ 88,885	\$ 98,449	\$ 64,112	\$ 112,270	\$ 138,235	\$ 111,198	\$ 90,479
<b>Totals</b>	<b>\$ 996,603</b>	<b>\$ 844,024</b>	<b>\$ 1,087,455</b>	<b>\$ 1,049,507</b>	<b>\$ 1,057,172</b>	<b>\$ 1,136,314</b>	<b>\$ 1,313,244</b>	<b>\$ 1,321,102</b>	<b>\$ 1,449,663</b>	<b>\$ 1,108,552</b>	<b>\$ 941,779</b>	<b>\$ 976,317</b>

**Material Costs**



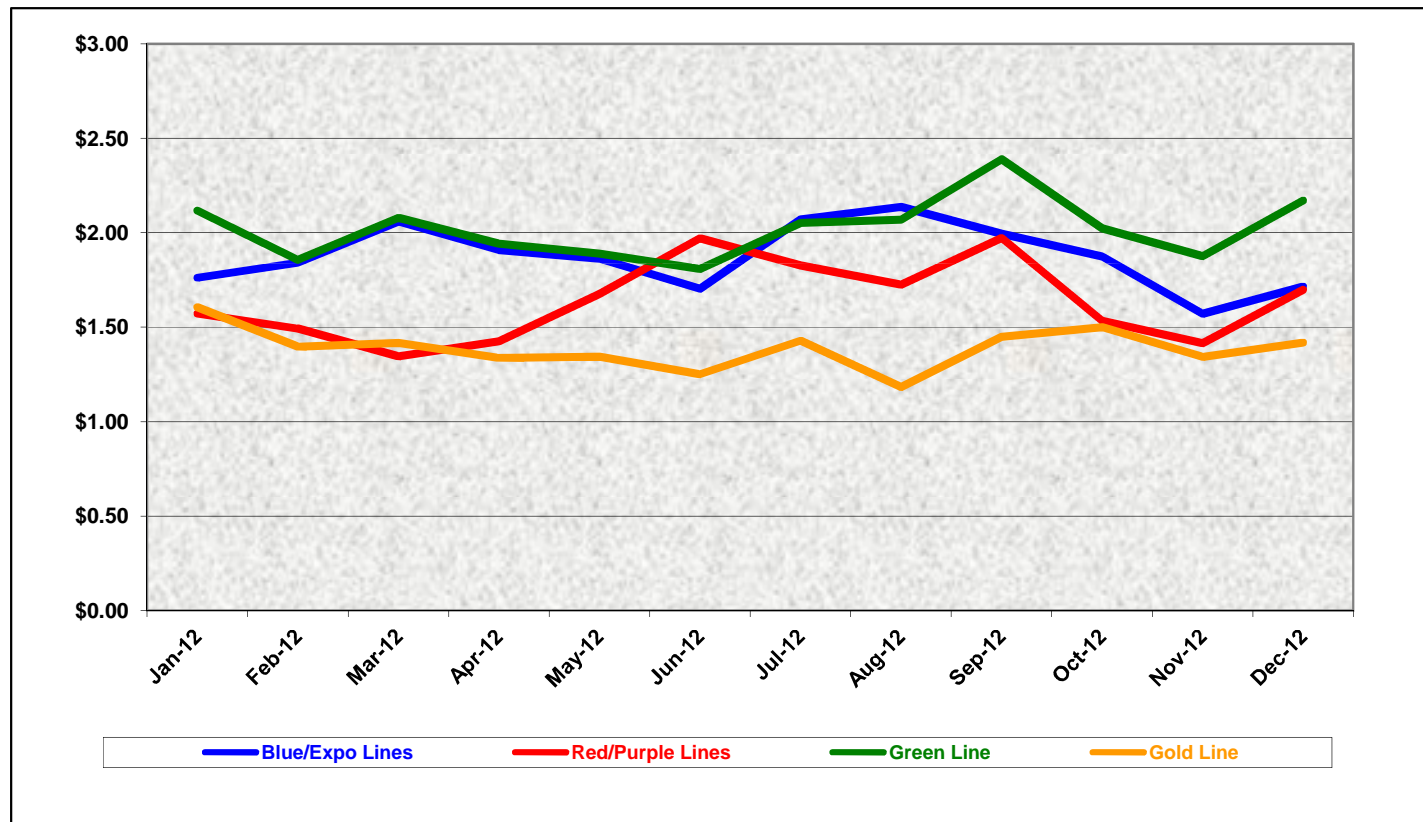
**Labor Costs**



<b>LABOR</b>	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12
Blue/Expo Lines	\$ 534,797	\$ 522,603	\$ 601,905	\$ 622,113	\$ 687,897	\$ 628,928	\$ 699,849	\$ 716,987	\$ 695,926	\$ 722,379	\$ 683,896	\$ 772,382
Red/Purple Lines	\$ 602,770	\$ 584,940	\$ 562,875	\$ 602,434	\$ 639,102	\$ 613,032	\$ 645,748	\$ 676,501	\$ 674,192	\$ 718,139	\$ 610,872	\$ 671,039
Green Line	\$ 262,563	\$ 241,042	\$ 278,653	\$ 253,643	\$ 293,492	\$ 251,094	\$ 286,110	\$ 304,066	\$ 304,487	\$ 309,399	\$ 258,637	\$ 306,761
Gold Line	\$ 321,152	\$ 267,372	\$ 277,944	\$ 276,975	\$ 290,375	\$ 264,536	\$ 296,565	\$ 296,078	\$ 286,489	\$ 318,284	\$ 272,259	\$ 326,736
<b>Totals</b>	<b>\$1,721,282</b>	<b>\$1,615,957</b>	<b>\$1,721,377</b>	<b>\$1,755,165</b>	<b>\$1,910,866</b>	<b>\$1,757,590</b>	<b>\$1,928,272</b>	<b>\$1,993,632</b>	<b>\$1,961,094</b>	<b>\$2,068,201</b>	<b>\$1,825,664</b>	<b>\$2,076,918</b>

# Cost Per Mile December 2012

Cost per mile:	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Average
Blue/Expo Lines	\$1.76	\$1.84	\$2.06	\$1.91	\$1.86	\$1.70	\$2.07	\$2.14	\$1.99	\$1.87	\$1.57	\$1.72	\$1.87
Red/Purple Lines	\$1.57	\$1.49	\$1.35	\$1.43	\$1.68	\$1.97	\$1.83	\$1.73	\$1.97	\$1.53	\$1.41	\$1.70	\$1.64
Green Line	\$2.12	\$1.86	\$2.08	\$1.94	\$1.89	\$1.81	\$2.05	\$2.07	\$2.39	\$2.02	\$1.88	\$2.17	\$2.02
Gold Line	\$1.61	\$1.40	\$1.42	\$1.34	\$1.34	\$1.25	\$1.43	\$1.18	\$1.45	\$1.50	\$1.34	\$1.42	\$1.39



# ATU Absences vs. Overtime

## December 2012

ABSENCE TYPE and HOURS	3940 Admin.	3941 Blue	3942 Red	3943 Green	3944 Gold	3947 Expo	Total
BER-BEAVEMENT	0.00	0.00	40.00	40.00	40.00	0.00	120.00
CTO-COMPENSATORY TIME OFF	0.00	362.00	345.23	175.00	208.00	32.00	1,122.23
CUT-EMPLOYEE LEAVES EARLY	0.50	1.50	0.50	1.46	1.00	0.00	4.96
CVA - CASUAL VACATION	0.00	66.00	244.00	0.00	248.00	0.00	558.00
DSL-DISABILITY LEAVE/LONG	0.00	864.00	168.00	200.00	432.00	0.00	1,664.00
EFH-EMG. FLOAT HOL.	0.00	0.00	96.00	48.00	56.00	0.00	200.00
ETO-EXCUSED TIME OFF	11.00	57.00	55.52	4.50	38.01	1.00	167.03
FMI-FAM IND INJURY	0.00	0.00	128.00	0.00	0.00	0.00	128.00
FML-FAMILY CARE LEAVE	0.00	260.73	32.00	104.00	264.00	0.00	660.73
FMS-FAMILY LEAVE SICK	0.00	58.40	32.00	0.00	16.00	0.00	106.40
HLF-HOLIDAY FLOATING	0.00	280.00	312.00	96.00	136.00	8.00	832.00
HNP-HOLIDAY NOT PAID	0.00	24.00	0.00	40.00	0.00	0.00	64.00
HOL-HOLIDAY LEGAL	32.00	600.00	640.00	184.00	184.00	32.00	1,672.00
II-INDUSTRIAL INJURY	0.00	0.00	224.00	192.00	0.00	0.00	416.00
IIR-INDUS INJURY-REOCCUR.	0.00	168.00	16.00	0.00	0.00	0.00	184.00
LC1-LABOR CODE 233	0.00	128.00	184.24	40.00	56.00	0.00	408.24
OWP-OFF WITH PERMISSION	0.00	0.00	49.07	0.00	0.00	0.00	49.07
RTO-REQUESTED TIME OFF-NO PA	0.00	8.00	0.00	8.00	0.00	0.00	16.00
SCK-SICK PAY	0.00	337.50	162.92	27.50	120.00	16.00	663.92
SCW-SICK WITHOUT PAY	0.00	54.50	0.00	0.00	0.00	0.00	54.50
SPN-SCHOOL PARTNER NOT PAID	0.00	0.00	0.00	0.00	8.00	0.00	8.00
SUS-DISCIPLINARY SUSPENSION	0.00	8.00	0.00	0.00	0.00	0.00	8.00
TAR-TARDY	0.00	3.54	0.82	3.22	0.77	0.00	8.35
VAC-VACATION	80.00	781.22	1,192.00	328.00	292.00	0.00	2,673.22
VAS-VACATION WHILE SICK	0.00	10.80	0.00	0.00	0.00	0.00	10.80
<b>Total Absence Hours</b>	<b>124</b>	<b>4,073</b>	<b>3,922</b>	<b>1,492</b>	<b>2,100</b>	<b>89</b>	<b>11,799</b>
ATU Number of Work Force (assigned)	5	121	109	46	48	5	334
Full Work Force hours/month	867	20,969	18,890	7,972	8,318	867	57,882
<b>Absence as a % of Work Force</b>	<b>14%</b>	<b>19%</b>	<b>21%</b>	<b>19%</b>	<b>25%</b>	<b>10%</b>	<b>20%</b>
<b>OVERTIME TYPE and HOURS</b>	<b>3940</b>	<b>3941</b>	<b>3942</b>	<b>3943</b>	<b>3944</b>	<b>3947</b>	<b>Total</b>
CTB-COMPENSATORY TIME TO BANK	5	168	119	92	91	8	484
OTP-PREM OVERTIME	357	5018	3779	1106	1492	61	11813
WLO-Worked Lunch Overtime	11	156	209	89	85	8	557
<b>Total</b>	<b>373</b>	<b>5341</b>	<b>4108</b>	<b>1288</b>	<b>1669</b>	<b>77</b>	<b>12854</b>
<b>Overtime as a % of Work Force</b>	<b>43%</b>	<b>25%</b>	<b>22%</b>	<b>16%</b>	<b>20%</b>	<b>9%</b>	<b>22%</b>
<b>UNCOVERED ABSENCES</b>	<b>3940</b>	<b>3941</b>	<b>3942</b>	<b>3943</b>	<b>3944</b>	<b>3947</b>	<b>Total</b>
Absences FTE	1	23	23	9	12	1	68
OTP FTE	2	31	24	7	10	0	74
<b>FTE Difference</b>	<b>-1</b>	<b>-8</b>	<b>-1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>-6</b>

Note: Overtime also covers other required activities.



# Rail Vehicle Engineering Project Summary

## December 2012

Preparation of Engineering Technical Specifications	Tracking #	Status
Red Line AC Gear Box (Rev. 0)	A650/TS/026	IFB 12-0024 issued and schedule to close 01/11/2013
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	Released to Procurement for bid - In DEOD
Friction Brake Kit Less Air Compressor Overhaul	P2000/TS/035 Rev 0	Released to Procurement for bid - SS was signed - Going to December 13 Board for approval
A650 Battery Specification	A650/TS/39	Released to Procurement for bid - Hoppeke to deliver 1st article for testing and approval
Powered Axle Overhaul SOW	P865-P2020/TS/063 and 052	Released to Procurement for bid - In DEOD
Seat Insert	P865-P2020/TS/62	Released to Procurement - Awarded to Sardo -PO# SD259396 due end of December, 2013
Red Line DC Gear Box (Rev. 0)	P650/TS/040	Released to Procurement for bid - Dealing with Flender as OEM
Vandal Shield for all lines	A650-P865-P2000-P2550/TS/012	Competitive bid is on HOLD bending Flender resolution
Aux power supply equipment (APSE) - Static Inverter	P865-P2020/TS/065 Rev. 0 [2 Parts]	Released to Procurement- Contract awarded
Tire kit specification	P865-P2020/TS/064	Released to Procurement for bid - In DEOD
Red Line (Base Buy) DC Traction Motor	P650/TS/041	Released to Procurement for bid
MBL HVAC Compressor	P865/P2020/TS/067 Rev. 0	Released to Procurement - Bid is on Hold (Resin verification)
Head Sign LED	P2000/TS/xx	Released to Procurement for bid - Reply to Bid questions.
Chevron springs	P865/P2020/TS/068 Rev. 0	Draft in process
Filter-Fresh Air	P2550/TS/004	Released to Procurement for bid - IFB 13-0015 issued, Bid due on 01/23/2013
Filter-Return Air	P2550/TS/005	In review process
Chopper Air Filter	P865-P2020/TS/050	In review process
Motor Alternator Filter	P865-P2020/TS/051	Draft in review
Inverter Air Filter	A650/TS/036	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
Bike Space		P2550 in prototype completed.
St. Louis LRV		P2000/P2550/A650 Fleet modification completed.
		Testing flooring for fire rating - investigating computability.
P2000 Overhaul Program		Status
Mapping mainline		Conducted mapping the entire line in 2 weeks for ATP/ATO/TWC
Master Controller - Bombardier Refurbish		Ongoing Program
RSS and EOSS Bundle Cables/Connectors - Glenair		In Progress
CCH possible replacement (Focon)		Send information to Focon
TWC Calibration procedure.		TWC calibration procedures completed. Issued and Training in commencement at Division
Speed Sensors		Testing new speed sensors from Smith System
Friction Brake failure investigation		Metro technical team with Wabtec (OEM) ongoing investigation.
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 on order - Due in October 2012 - Modifying 1 unit is in process by Knorr
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



# Rail Vehicle Engineering Project Summary (cont'd)

## December 2012

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
ABI New Traction Motor Mount		ABI for Fleet Modification in progress. A total of seventy seven (88) trucks were completed.
Friction Brake Kit Overhaul		Overhaul program in place - Wabtec (30 Base cars were added and approved)
Ribbed Rubber Flooring PRF		Dealing with OEM - No bids received from others. Proceeding with PRF.
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.
HVAC Evaporator AC motor/Inverter		Testing 1st article from Vapor Stone on one car.
Traction motor Blower- AC motor/Inverter		Testing 1st article from ATS on one car.
12 GTO (6 GTO+ and 6 GTO-) will be bench tested and installed on the train for dynamic testing.		In progress
PSI 3-day visit from 2/8-2/10/2013 regarding GE Tester performance to compare with PSI Tester. Installed GTO for dynamic main line testing		In progress
P2550		Status
Vehicle Acceptance		Fifty cars have been Final Accepted.
3P Flip Up Seat Finger Guard		Submitted SS to Procurement - Testori - 1st prototype received and requires modification.
Find alternative Vendor for Reverse Engineer PCB Boards P2550		In Progress
Compressor Desiccant Material		In Progress
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.
HVAC investigation		Water drain and smoking filter issues
Lateral shock absorber		Investigating the failure of the resilient bushing.
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.
Loss of Cab signal, speed code 45 mph. Support GE, B&C, Wayside to resolve problems at La Cienega Staion Expo line		In Progress to follow up
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.

# P2550 Vehicle Acceptance Program

## December 2012

### **Vehicle Status Update:**

- Project staff working with AB to close out open items including deliverable documentation.
- AB performing ATP-by pass switch modification. To date, 35 cars completed.
- AB performing Door system improvement modification. To date, 27 cars completed.

### **Engineering Activities Update:**

- Event recorder: Configuration finalized and event recorders activated. 44 cars completed. Access to the remaining vehicles, and parts for those cars, are being addressed. The final training schedule for the event recorder is being established.
- ATP/TWC Configuration: Testing continued toward resolving TWC change order issues. A-STS continued to test software / wiring remedies targeted to resolve signal strength.
- Engineering issues regarding warranty items are being addressed.

### **Project Management:**

- Contract spares continue to be delivered to Metro and all parts needed for day-to-day maintenance have been received. Critical parts needed for heavy repairs are beginning to arrive including two spare truck sets.
- Director level project meeting on technical and commercial items held December 5, 2012.
- Daily and bi-weekly meetings are scheduled with contractor management to address project issues.

# QA-Warranty Program Projects Summary

## December 2012

### QA-WARRANTY ACTIVITIES

- On-Going, P2550 Fleet Mod Campaigns/Testing Oversight, Component Reliability Trend Tracking (7.0 Version Communication Software Installation, ATP By-Pass Switch, Door Mod Campaign and Event Recorder Mod).
- On-Going, P2550 parts tracking: Contract Spares, Capital Spares, Warranty Spares & Metro Loaned Parts.
- On-Going, P2550 Warranty Parts Claims Processing.
- P2550 Fleet High Speed Coupling failure investigation.
- P2550 Shock Absorber fleet failure declared.
- P2550 (Lamellar Seal) Truck Resilient Pin Bushing fleet failure declared.
- A650 Base Buy & Option Car Fleet Warranty Truck Frame Mod Campaign (57 of 220 Trucks modified to date). MRL Warranty Cost Avoidance savings accrued to date \$437,798.56.
- Management's Special Interest 7.5k Supplemental Inspections, MBL & MGL P2000 Fleet completed.
- On-Going, Management's Special Interest Phase-2 Supplemental Inspections, MBL & MGL P2000 Fleet 3 of 52 cars completed.
- QA PMI Audits, Spot Checks, Surprise/Unannounced Audits performed (16).
- RFS FAI's or equipment inspection/failure investigations (14).
- A650 Vehicles 505/506 re-commissioning, troubleshooting, opt-testing 1000-mile burn-in at 421 miles.
- 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

## December 2012

### Training classes completed during the month of December 2012

Description	Course Hours	Student Count	Training Hours
<b><u>Blue &amp; Expo Line Training - (P865/2020 &amp; P2000 LRV):</u></b>			
P2000 VEHICLE SYSTEMS INTEGR. AND TROUBLESHOOTING	70	6	420
<b>Total Blue Line Training (Hours):</b>			<b>420</b>
<b><u>Red Line Training (Breda A650 HRV):</u></b>			
RFS BRED A650 FRICTION BRAKES	40	7	280
REFRIGERANT RECOVERY SYSTEMS (608)	16	6	96
RFS BRED A650 HVAC REFRESHER	24	9	216
RFS BRED A650 HVAC	40	7	280
<b>Total Red Line Training (Hours):</b>			<b>872</b>
<b><u>Green Line Training (P2000 LRVs):</u></b>			
RFS 2-WEEK RAIL INTRODUCTION	80	2	160
<b>Total Green Line Training (Hours):</b>			<b>160</b>
<b><u>Gold Line Training (P2550 LRVs):</u></b>			
HAZARD COMMUNICATION FOR EMPLOYEES	1.5	46	69
<b>Total Gold Line Training (Hours):</b>			<b>69</b>
<b><u>Total RFS Instruction for the month of December 2012 (Hours):</u></b>			<b>1,521</b>
<b><u>Other Instruction Activities</u></b>			
Instr. VAC & HOL			136
A650, P2550 & P2000 Vehicle Course Preparation			80
<b><u>Total Other Instruction Activities</u></b>			<b>216.0</b>

**Core Vehicle Training Completed:**    **BLUE**    **RED**    **GREEN**    **GOLD**

**Percentage of core vehicle training complete:**    **76.1%**    **93.2%**    **80.6%**    **78.2%**

Siemens P2000 training complete:    45.9%    N/A    N/A    N/A

**Average Specialist Rail Experience Level in Years:**    **10.9**    **10.2**    **9.0**    **9.8**



**Metro**

### Core Training Completed

