

# Rail Fleet Services Monthly Report August 2012

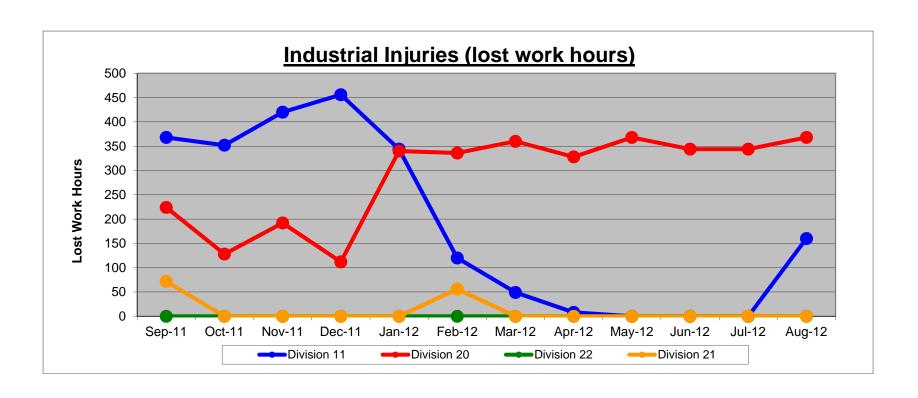


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# Industrial Injuries – Lost Work Hours August 2012



	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Year to Date
Division 11	368	352	420	456	344	120	49	8	0	0	0	160	2,277
Division 20	224	128	192	112	340	336	360	328	368	344	344	368	3,444
Division 22	0	0	0	0	0	0	0	0	0	0	0	0	0
Division 21	72	0	0	0	0	56	0	0	0	0	0	0	128
Totals	664	480	612	568	684	512	409	336	368	344	344	528	5,849



# Rail Vehicle Accidents & Major Incidents August 2012

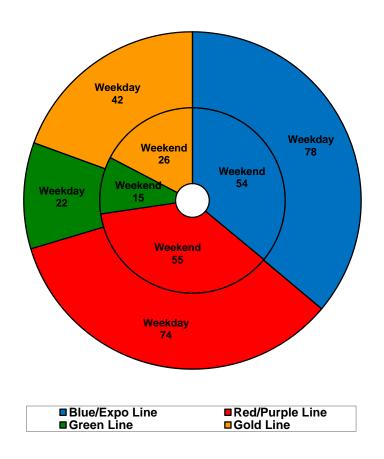
Repair Costs	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Totals
Blue/Expo Line	\$7,337	\$888	\$16,188	\$1,199	\$4,704	\$5,087	\$18,570	\$2,675	\$1,718	\$1,186	\$674	\$8,226	\$68,452
Red/Purple Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,115	\$571	\$0	\$0	\$0	\$1,686
Green Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$989	\$0	\$0	\$120	\$0	\$1,109
Gold Line	\$0	\$320	\$0	\$0	\$0	\$0	\$4,134	\$0	\$0	\$752	\$0	\$1,583	\$6,789
Totals	\$7,337	\$1,208	\$16,188	\$1,199	\$4,704	\$5,087	\$22,704	\$4,779	\$2,289	\$1,938	\$794	\$9,809	\$78,036

			I Vehicle Accident Costs - August 2012	
Metro Blue				
Date	Incident #	Problem code	Incident Description	Cost
8/1/2012	2211444	Train vs. Vehicle	A 10-73 involving Train 25 was reported going northbound at Gage Street grade crossing.	\$1,926.00
8/6/2012	2213645	Train vs. Vehicle	A 10-73 involving Train 12 was reported at Pacific Coast Highway grade crossing on track 2.	\$1,210.00
8/6/2012	2213803	Train vs. Object	A 10-71 was reported when Train 2 made contact with rail equipment (metal bar) at Maple Interlocking Track.	\$0.00
8/22/2012	2220473	Train vs. Vehicle	A 10-73 was reported when Train 15 made contact with an auto going southbound at Washington and Main Street intersection.	\$2,040.00
8/27/2012	2222193	Train vs. Object	A 10-71 occurred when Train 6 operator reported incident with an MTA bus.	\$0.00
8/30/2012	2223983	Train vs. Vehicle	A 10-73 was reported on track 1 at Long Beach and 19th Street.	\$2,438.00
				7,614.00
Expo Line				
8/23/2012	2220932	Train vs. Pedestrian	A 10-73 was reported involving Train #5 at 30th and Flower.	\$612.00
				612.00
Metro Gold	Line			
8/6/2012	2213507	Train vs. Object	A 10-71 was reported heading northbound involving a shopping cart at Pico Aliso Station on track 1.	\$484.00
8/6/2012	2213906	Train vs. Pedestrian	A 10-72 occurred at Mission Station involving Train 8 going northbound on track 1.	\$0.00
8/22/2012	2220371	Train vs. Vehicle	A 10-73 occurred with Train 7 at 3rd and La Verne on track 1.	\$1,099.00
				\$1,583.00
			GRAND TOTAL	\$9,809.00



### Service Delivery August 2012

<b>Blue/Expo Line Fl</b>	eet Size:	92	
	Vehicles	<u>Average</u>	<u>% Up</u>
Pull Out	Required	<u>Available</u>	(Down)
Weekday:	78	79	101%
Weekend:	54	66	122%
Late Pullouts: 4 *			
Monthly Mileage:	636,460	1	
Red/Purple Line F	leet Size:	104	
	Vehicles	<u>Average</u>	<u>% Up</u>
Pull Out	Required	<u>Available</u>	(Down)
Weekday:	74	82	111%
Weekend:	55	77	140%
Late Pullouts: 0 *			
Monthly Mileage:	637,832	•	
I			
Green Line Fleet		29	
	Vehicles	<u>Average</u>	<u>% Up</u>
Pull Out	Vehicles Required	Average Available	(Down)
Pull Out Weekday:	Vehicles Required 22	Average Available 24	(Down) 108%
Pull Out Weekday: Weekend:	Vehicles Required	Average Available	(Down)
Pull Out Weekday: Weekend: Late Pullouts: 0 *	Vehicles Required 22 15	Average Available 24 23	(Down) 108%
Pull Out Weekday: Weekend:	Vehicles Required 22	Average Available 24 23	(Down) 108%
Pull Out Weekday: Weekend: Late Pullouts: 0 *	Vehicles Required 22 15	Average Available 24 23	(Down) 108%
Pull Out Weekday: Weekend: Late Pullouts: 0 * Monthly Mileage: Gold Line Fleet Si	Vehicles Required 22 15 238,736 ize: Vehicles	Average Available 24 23 49 Average	(Down) 108% 150%
Pull Out Weekday: Weekend: Late Pullouts: 0 * Monthly Mileage:	Vehicles Required 22 15 238,736	Average Available 24 23  49 Average Available	(Down) 108% 150%
Pull Out Weekday: Weekend: Late Pullouts: 0 * Monthly Mileage: Gold Line Fleet Si Pull Out Weekday:	Vehicles Required 22 15 238,736 Ze: Vehicles Required 42	Average Available 24 23  49 Average Available 43	(Down) 108% 150%
Pull Out Weekday: Weekend: Late Pullouts: 0 * Monthly Mileage: Gold Line Fleet Si Pull Out Weekday: Weekend:	Vehicles Required 22 15 238,736 Ze: Vehicles Required	Average Available 24 23  49 Average Available	(Down) 108% 150% % Up (Down)
Pull Out Weekday: Weekend: Late Pullouts: 0 * Monthly Mileage: Gold Line Fleet Si Pull Out Weekday:	Vehicles Required 22 15 238,736 Ze: Vehicles Required 42	Average Available 24 23  49 Average Available 43 42	(Down) 108% 150% % Up (Down) 102%

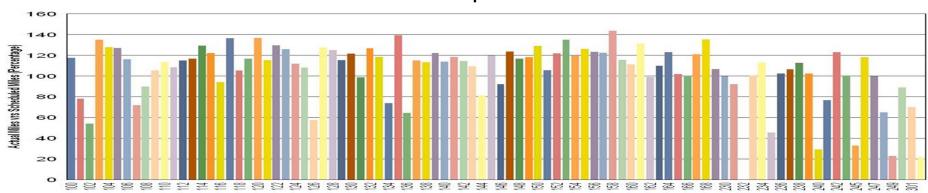




<sup>\*</sup> Due to a vehicle related problem

### Vehicle Utilization August 2012

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

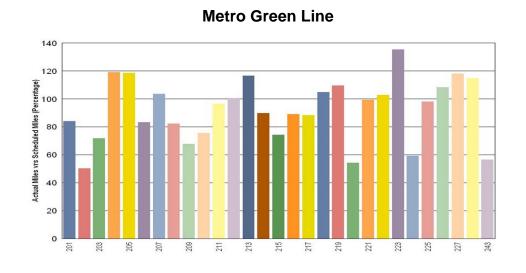


#### **Blue/Expo Lines:**

- 232 Vehicle assigned for training exercises.
- 240 Vehicle held for propulsion and HVAC problems.
- Vehicle held down for ATP and car leveling problems.
- 249 Vehicle held down for propulsion and EMI problems.
- 302 Vehicle held for HVAC and auxilary inverter problems.

#### **Green Line:**

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





### Vehicle Utilization August 2012

#### Red/Purple Lines: Explanation for under-used vehicles:

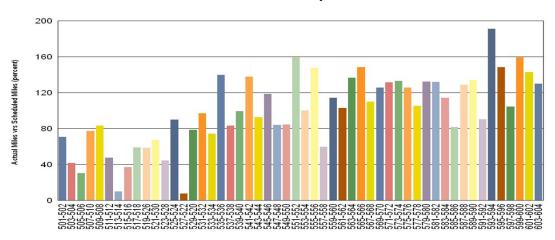
Vehicle was mostly out of service due to HVAC issues (HVAC false indication light keeps coming on) and then the mainline failure on 8/27/12 due to emergency brake application will not release. Vehicle is being held out of service for trouble-

shooting.

513-514 Vehicle was out of service for 8 days due to J and H codes. Rear truck had 2 TM and was grounded on Car 514. Trucks had to be replaced.

527-522 Vehicle out of service due to propulsion faults intermittently recurring even after applying modified boards from consultant's recommendation. Problem occurred in one of the trucks. Vehicle was placed on status 4 and is awaiting parts (axles and journal bearing).

#### **Metro Red/Purple Lines**



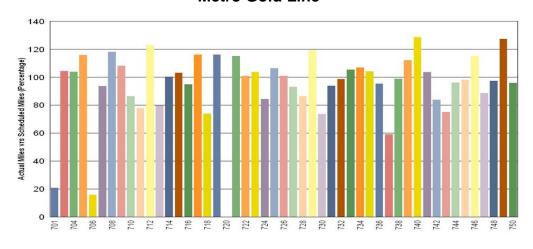
#### **Gold Line:**

701 New vehicle accepted by RFS for revenue service on 8/24/12.

706 Vehicle placed back into service due to defective laminar seals on truck axles and replacement of several major components.

720 Vehicle remains out of service due to reoccurrence of burned wires in the 208VDC HVAC circuit connector plug. Repairs are in progress and Maintenance is coordinating with RFS Engineering to determine the root cause.

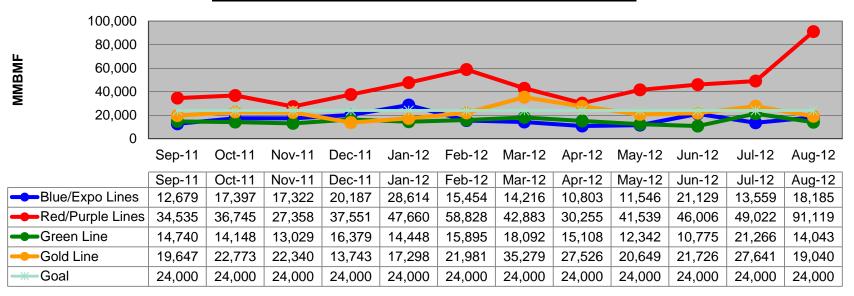
#### **Metro Gold Line**



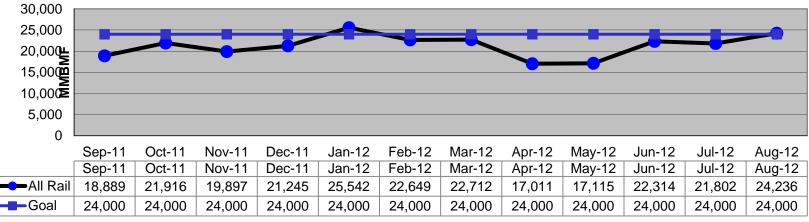


### Mean Miles Between Failures (Major) Year to Date

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



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

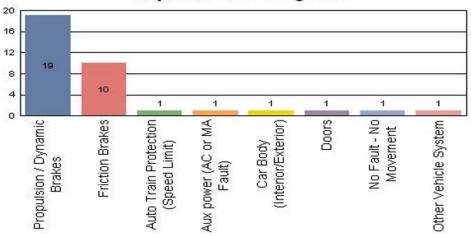




### Major Incidents August 2012

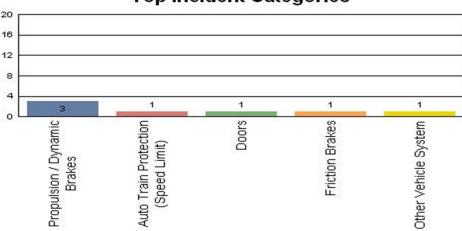
#### Metro Blue/Expo Line

#### **Top Incident Categories**



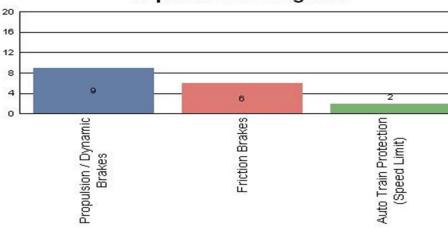
#### **Metro Red/Purple Line**

#### **Top Incident Categories**



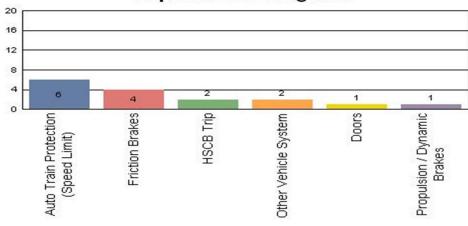
#### **Metro Green Line**

#### **Top Incident Categories**



#### **Metro Gold Line**

#### **Top Incident Categories**



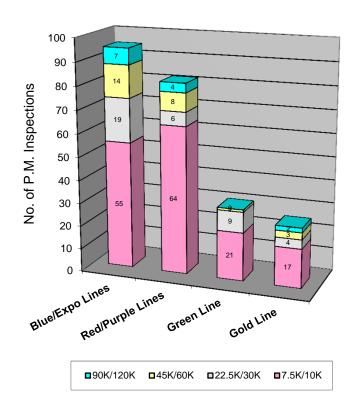


## Preventive Maintenance Compliance August 2012

PM Compliance	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-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%	100%	100%	100%	100%	*98%
Green Line	100%	100%	100%	96%	100%	100%	100%	100%	100%	96%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

#### August 2012 Preventive Maintenance Inspections

No. of P.M. Inspections	7.5K/10K	22.5K/30K	45K/60K	90K/120K	Totals
Blue/Expo Lines	55	19	14	7	95
Red/Purple Lines	64	6	8	4	82
Green Line	21	9	1	0	31
Gold Line	17	4	3	2	26
Totals:	157	38	26	13	234



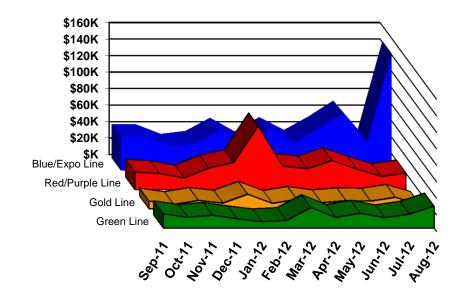


<sup>\*</sup>Note: PM mileage sheet did not update because certain PM work orders were in finished status. As a result, M3 did not query these PM work orders after the inspections were completed. A counter has been added to track PM vehicle mileage.

### Vandalism & Graffiti Report August 2012

	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Year-to- Date
Blue/Expo Line	\$41K	\$41K	\$29K	\$33K	\$49K	\$32K	\$49K	\$34K	\$50K	\$69K	\$35K	\$142K	\$603K
Red/Purple Line	\$21K	\$20K	\$14K	\$26K	\$33K	\$77K	\$28K	\$25K	\$35K	\$25K	\$16K	\$20K	\$342K
Green Line	\$17K	\$13K	\$15K	\$11K	\$8K	\$9K	\$25K	\$13K	\$18K	\$12K	\$17K	\$27K	\$185K
Gold Line	\$9K	\$5K	\$10K	\$7K	\$18K	\$7K	\$11K	\$7K	\$10K	\$9K	\$14K	\$5K	\$114K
Totals:	\$89K	\$78K	\$69K	\$77K	\$107K	\$125K	\$114K	\$79K	\$113K	\$116K	\$82K	\$194K	\$1,244K

August 20	)12 Vandalis	sm & Graffiti	· All Rail	
	Qty	Labor	Materials	Totals
Windows replaced	17	\$5,229	\$5,798	\$11,027
Vandal Shields	585	\$14,564	\$7,619	\$22,183
Seats Cleaned	560	\$1,987	\$0	\$1,987
Seats Replaced	1,980	\$62,049	\$67,106	\$129,155
Graffiti removal - other	645	\$22,238	\$1,200	\$23,438
Repainting panels	9	\$5,788	\$510	\$6,298
Totals	3,796	\$111,855	\$82,233	\$194,088





# **Graffiti Pictures August 2012**

**Blue Line** 



**Green Line** 



**Gold Line** 

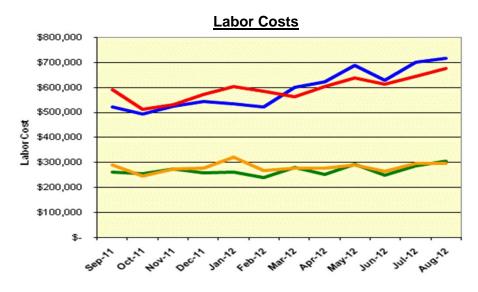




### Material and Labor Costs August 2012

MATERIALS	;	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12		Jul-12	Aug-12
Blue/Expo Lines	\$	359,508	\$ 256,152	\$ 268,760	\$ 346,891	\$ 322,169	\$ 359,911	\$ 510,512	\$ 511,185	\$ 473,281	\$ 414,601	\$	591,928	\$ 643,006
Red/Purple Lines	\$	263,808	\$ 344,563	\$ 272,291	\$ 285,916	\$ 296,353	\$ 205,225	\$ 244,902	\$ 260,532	\$ 335,824	\$ 474,908	\$	428,864	\$ 424,173
Green Line	\$	198,811	\$ 254,691	\$ 265,489	\$ 180,929	\$ 227,110	\$ 172,152	\$ 210,220	\$ 186,572	\$ 149,660	\$ 157,920	\$	194,003	\$ 189,811
Gold Line	\$	94,967	\$ 98,380	\$ 83,425	\$ 138,599	\$ 150,971	\$ 106,736	\$ 121,821	\$ 91,218	\$ 98,407	\$ 88,885	\$	98,449	\$ 64,112
Totals	\$	917,095	\$ 953,786	\$ 889,965	\$ 952,335	\$ 996,603	\$ 844,024	\$ 1,087,455	\$ 1,049,507	\$ 1,057,172	\$ 1,136,314	\$ ·	1,313,244	\$ 1,321,102



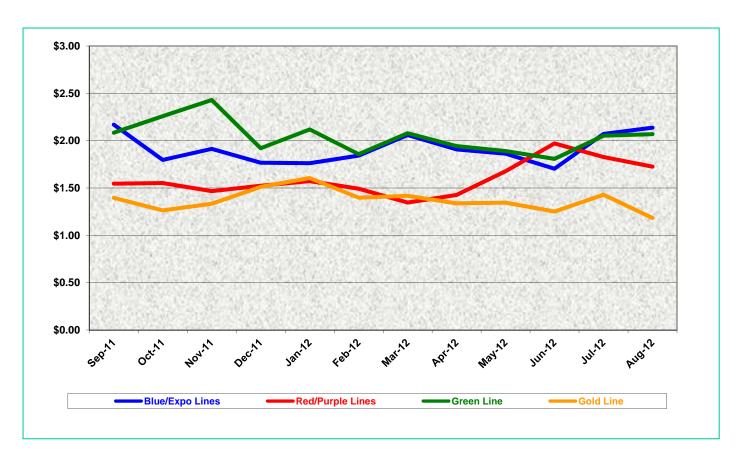


<u>LABOR</u>	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12
Blue/Expo Lines	\$ 520,526	\$ 493,739	\$ 526,600	\$ 544,564	\$ 534,797	\$ 522,603	\$ 601,905	\$ 622,113	\$ 687,897	\$ 628,928	\$ 699,849	\$ 716,987
Red/Purple Lines	\$ 589,986	\$ 510,944	\$ 530,408	\$ 571,885	\$ 602,770	\$ 584,940	\$ 562,875	\$ 602,434	\$ 639,102	\$ 613,032	\$ 645,748	\$ 676,501
Green Line	\$ 261,796	\$ 256,610	\$ 272,603	\$ 259,198	\$ 262,563	\$ 241,042	\$ 278,653	\$ 253,643	\$ 293,492	\$ 251,094	\$ 286,110	\$ 304,066
Gold Line	\$ 289,048	\$ 246,890	\$ 274,017	\$ 276,926	\$ 321,152	\$ 267,372	\$ 277,944	\$ 276,975	\$ 290,375	\$ 264,536	\$ 296,565	\$ 296,078
Totals	\$ 1,661,357	\$ 1,508,183	\$ 1,603,628	\$ 1,652,573	\$ 1,721,282	\$ 1,615,957	\$ 1,721,377	\$ 1,755,165	\$ 1,910,866	\$ 1,757,590	\$ 1,928,272	\$ 1,993,632



# Cost Per Mile August 2012

Cost per mile:	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Average
Blue/Expo Lines	\$2.17	\$1.80	\$1.91	\$1.77	\$1.76	\$1.84	\$2.06	\$1.91	\$1.86	\$1.70	\$2.07	\$2.14	\$1.92
Red/Purple Lines	\$1.55	\$1.55	\$1.47	\$1.52	\$1.57	\$1.49	\$1.35	\$1.43	\$1.68	\$1.97	\$1.83	\$1.73	\$1.59
Green Line	\$2.08	\$2.26	\$2.43	\$1.92	\$2.12	\$1.86	\$2.08	\$1.94	\$1.89	\$1.81	\$2.05	\$2.07	\$2.04
Gold Line	\$1.40	\$1.26	\$1.33	\$1.51	\$1.61	\$1.40	\$1.42	\$1.34	\$1.34	\$1.25	\$1.43	\$1.18	\$1.37





# Absences vs. Overtime August 2012

	3940	3941	3942	3943	3944	3947	
ABSENCE TYPE and HOURS	Admin.	Blue	Red	Green	Gold	Ехро	Total
AWP-ABSENT W/O PERMISSION	0.00	2.72	0.00	24.00	0.00	0.00	26.72
BER-BEAVEMENT	0.00	0.00	80.00	0.00	0.00	0.00	80.00
CTO-COMPENSATORY TIME OFF	0.00	127.75	168.00	83.50	128.00	72.00	579.25
CUT-EMPLOYEE LEAVES EARLY	0.48	0.50	0.02	1.33	0.50	0.02	2.85
CVA - CASUAL VACATION	0.00	44.50	641.00	0.00	360.70	0.00	1,046.20
DSL-DISABILITY LEAVE/LONG	0.00	368.00	160.00	136.00	329.00	0.00	993.00
EFH-EMG. FLOAT HOL.	0.00	0.00	104.00	40.00	16.00	0.00	160.00
ETO-EXCUSED TIME OFF	10.50	57.00	36.80	2.50	41.53	0.50	148.83
FMI-FAM IND INJURY	0.00	0.00	0.00	224.00	0.00	0.00	224.00
FML-FAMILY CARE LEAVE	0.00	1,000.00	484.00	370.25	40.00	0.00	1,894.25
FMS-FAMILY LEAVE SICK	0.00	234.20	178.60	48.00	40.00	0.00	500.80
HLF-HOLIDAY FLOATING	80.00	624.00	424.00	128.00	232.00	40.00	1,528.00
II-INDUSTRIAL INJURY	0.00	0.00	368.00	0.00	0.00	0.00	368.00
IIR-INDUS INJURY-REOCCUR.	0.00	160.00	0.00	0.00	0.00	0.00	160.00
JUR-JURY DUTY	0.00	8.00	16.00	0.00	24.00	0.00	48.00
LC1-LABOR CODE 233	24.00	96.00	99.83	18.90	72.00	0.00	310.73
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	0.00	0.00	8.00	0.00	8.00
RTO-REQUESTED TIME OFF-NO PA	0.00	66.75	0.00	6.93	0.00	0.00	73.68
SCK-SICK PAY	56.00	64.00	88.00	96.00	32.00	0.00	336.00
SCW-SICK WITHOUT PAY	0.00	184.00	108.08	125.75	56.00	0.00	473.83
SUS-DISCIPLINARY SUSPENSION	0.00	0.00	0.00	40.00	0.00	0.00	40.00
TAR-TARDY	0.00	4.40	1.06	1.52	0.84	0.05	7.87
UB-UNION BUSINESS	0.00	0.00	0.00	8.00	0.00	0.00	8.00
VAC-VACATION	224.00	1,300.33	956.00	320.33	537.00	8.00	3,345.66
VAC-VACATION WHILE SICK	0.00	0.00	62.00	0.00	0.00	0.00	62.00
Total Absence Hours	395	4,342	3,975	1,699	1,918	121	12,450
Number of Work Force (assigned)	32	129	116	53	53	6	389
Full Work Force hours/month	5,546	22,356	20,103	9,185	9,185	1,040	67,414
Absence as a % of Work Force	7%	19%	20%	18%	21%	12%	18%
OVERTIME TYPE and HOURS	3940	3941	3942	3943	3944	3947	Total
CTB-COMPENSATORY TIME TO BANK	0	301	334	167	127	42	970
OTP-PREM OVERTIME	669	4941	4477	1567	1544	88	13286
WLO-Worked Lunch Overtime	36	136	195	81	91	6	544
Total	704	5377	5006	1816	1762	136	14800
Overtime as a % of Work Force	13%	24%	25%	20%	19%	13%	22%
UNCOVERED ABSENCES	3940	3941	3942	3943	3944	3947	<u>Total</u>
Absences FTE	2	25	23	10	11	1	72
OTP FTE	4	31	29	10	10	1	85
FTE Difference	-2	-6	-6	0	1	0	-13



### Rail Vehicle Engineering Project Summary August 2012

Red Line AC Gear Box (Rev. 0)	A650/TS/026	Draft in process
Powered Axle Overhaul SOW	P2000 SOW	NTP was issued to PAMCO on 08/08/2012
Vital Relay Calibration	P865-P2020/TS/061	In Revising Process
Windows glass and rubber glazing specification	P865-P2020/TS-066	Released to Procurement - Bid is due on 08/22/12
Friction Brake Kit Less Air Compressor Overhaul	P2000/TS/035 Rev 0	Released to Procurement for bid - SS was signed - Going to DBE on 08/17/12
Center Truck Friction Brake Disc	P2000-TS-020 rev. 01	Awarded to Wabtec
A650 Battery Specification	A650/TS/39	Released to Procurement for bid - Answered Hoppeke Questions
Powered Axle Overhaul SOW	P865-P2020/TS/xx	Received draft from CH2M and in editing process
Seat Insert	P865-P2020/TS/62	Released to Procurement- Bid is due on 08/23/12
Red Line DC Gear Box (Rev. 0)	P650/TS/040	Released to Procurement for bid
Vandal Shield for all lines	A650-P865-P2000-P2550/TS/012	Released to Procurement- Bid was opened on 07/31/12 - Waiting for Mini Board aaproval
Aux power supply equipment (APSE) - Static Inverter	P865-P2020/TS/065 Rev. 0 [2 Parts]	Released to Procurement for bid
Tire kit specification	P865-P2020/TS/064	Released for signatures
Red Line (Base Buy) DC Traction Motor	P650/TS/041	Released to Procurement - Bid is due 09/14/12 - Answering Bid Questions
MBL HVAC Compressor	P865/P2020/TS/067 Rev. 0	Released to Procurement for bid
Head Sing LED	P2000/TS/xx	Draft in process
Chevron springs	P865/P2020/TS/068 Rev. 0	CH2M in editing process with Metro's comments
	General - All Lines	Status
Roadway Worker Protection		CPUC/Installing ProTran1 Device-P865/P2020/P2000/P2550 completed, A650 in process
Fleet Faliue Analysis		CH2M Hill
New Radios installed to replace old radios		Meeting 3/7/2012-Contract awarded, MBL and P2000 prototypes are in installtion process.
Bike Space		P2000/P2550/A650 Fleet modification completed.
	P2000 Overband December	Chatter
Mostor Controllor Remberdier Refurbieb	P2000 Overhaul Program	Ongoing Program
Master Controller - Bombardier Refurbish		Ongoing Program
RSS and EOSS Bundle Cables/Connectors - Glenair Handicap Seat Modification using Velcro		In Progress MGL In Progress
CCH possible replacement (Focon)		Send information to Focon
CCH possible replacement (Focon)		Base Line data confirmed and existing TWC test equipment mapped for performance. Systra on
TWC Calibration procedure.		board developing TWC caliration procedures.
1 VVO Calibration procedure:	1	board developing TWO camation procedures.
	P865/P2020 Program	Status
Static Inverter - Transtechnik		Inverter running in revenue service for testing - No issues - Spec released to Procurement
Remotely reset CB1 Breaker		ABB Prototype was successfully tested. Fleet modification completed.
		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 anttenas are in installtion
"G" force measurement on Transponder installed on P865/P2020		progress.
·		ADD D
		ABB Prototype installed on 07/24/12 for one month test period. Test was successful. In process of
Under seat - No motion relays		procuring kits.
Under seat - No motion relays Replace air compressor DC motor with AC motor		
		procuring kits. Knorr prototype on order - Due in October 2012
Replace air compressor DC motor with AC motor	P2000 Gold to Green	procuring kits. Knorr prototype on order - Due in October 2012  Status
	P2000 Gold to Green	procuring kits. Knorr prototype on order - Due in October 2012  Status On-hold
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)	P2000 Gold to Green	procuring kits. Knorr prototype on order - Due in October 2012  Status On-hold 90% complete. Base line established, TWC antenna jig designed and built, procedure written and
Replace air compressor DC motor with AC motor	P2000 Gold to Green	procuring kits. Knorr prototype on order - Due in October 2012  Status On-hold
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)		procuring kits.  Knorr prototype on order - Due in October 2012  Status  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)	P2000 Gold to Green  A650 Overhaul Program	procuring kits.  Knorr prototype on order - Due in October 2012  Status  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.  Status
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification		procuring kits.  Knorr prototype on order - Due in October 2012  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.  Status  Draft complete by Metro. In process of Consultant selection to complete.
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Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade  ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage ) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues	A650 Overhaul Program P2550	Procuring kifs.  Knorr prototype on order - Due in October 2012  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.  Draft complete by Metro. In process of Consultant selection to complete.  Wabtec Proposal received - Production run prototype by 08/15/12. NTP issued 08/08/12  ABI for Fleet Modification in progress. A total of sventy seven (83) trucks were completed.  Overhaul program in place - Wabtec (30 Base cars were added and approved)  Dealing with OEM - Procurement getting more quotes.  In Progress - Buying kits from Vapor Stone to overhaul GB and motor in house.  Unit upgrade - Fleet issues (Wabtec) to provide new unit proposal.  Status  Forty nine cars have been Final Accepted. Car 702 are in commisioning test.  Submitted SS to Procurement - Testori  In Progress  In Progress  In Progress - NASG  Awaiting ABI/Schunk final update.  Status  Metro-RFS Engineering is supporting qualification and test activities of vehicles and wayside.  Mainline Testing Completed; waiting for final letter  Investigation completed - Test was scucceful - Fleet modification in process.
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues Junction of Blue line and Expo line Testing	A650 Overhaul Program P2550	Procuring kits.  Knorr prototype on order - Due in October 2012  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.  Status  Draft complete by Metro. In process of Consultant selection to complete.  Wabtec Proposal received - Production run prototype by 08/15/12. NTP issued 08/08/12  ABI for Fleet Modification in progress. A total of sventy seven (83) trucks were completed.  Overhaul program in place - Wabtec (30 Base cars were added and approved)  Dealing with OEM - Procurement getting more quotes.  In Progress - Buying kits from Vapor Stone to overhaul GB and motor in house.  Unit upgrade - Fleet issues (Wabtec) to provide new unit proposal.  Status  Forty nine cars have been Final Accepted. Car 702 are in commissioning test.  Submitted SS to Procurement - Testori  In Progress  In Progress - NASG  Awaiting ABI/Schunk final update.  Metro-RFS Engineering is supporting qualification and test activities of vehicles and wayside.  Mainline Testing Completed; waiting for final letter  Investigation completed - Test was scucceful - Fleet modification in process.  Safe Braking test completed at Culver City Station and report of successful test completed.
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage ) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues	A650 Overhaul Program P2550	Status
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues Junction of Blue line and Expo line Testing Junction of Blue line and Expo line Testing	A650 Overhaul Program P2550	Procuring kifs.  Knorr prototype on order - Due in October 2012  On-hold  90% complete. Base line established, TWC antenna jig designed and built, procedure written and worked though. Requires final document review and issue.  Status  Draft complete by Metro. In process of Consultant selection to complete.  Wabtec Proposal received - Production run prototype by 08/15/12. NTP issued 08/08/12  ABI for Fleet Modification in progress. A total of sventy seven (83) trucks were completed.  Overhaul program in place - Wabtec (30 Base cars were added and approved)  Dealing with OEM - Procurement getting more quotes.  In Progress - Buying kits from Vapor Stone to overhaul GB and motor in house.  Unit upgrade - Fleet issues (Wabtec) to provide new unit proposal.  Status  Forty nine cars have been Final Accepted. Car 702 are in commissioning test.  Submitted SS to Procurement - Testori  In Progress  In Progress - Vulcanite. Buying OEM through A&E Telecom.  In Progress - NASG  Awaiting ABI/Schunk final update.  Status  Metro-RFS Engineering is supporting qualification and test activities of vehicles and wayside.  Mainline Testing Completed; waiting for final letter Investigation completed - Test was scuceful - Fleet modification in process.  Safe Braking test completed at Culver City Station and report of successful test completed.  Recent testing (07/26/12) indicated signal track problem at Culver City. Wayside are recertify track circuits. Further testing will be undertaken when complete.
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage ) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues Junction of Blue line and Expo line Testing Junction of Blue line and Expo line Testing Expo Frog Testing	A650 Overhaul Program P2550	Status
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues Junction of Blue line and Expo line Testing Junction of Blue line and Expo line Testing Expo Frog Testing ATP Cab Signal Mapping at the Junction and Expo Line Phase I	A650 Overhaul Program P2550	Status
Replace air compressor DC motor with AC motor  Signal package conversion (Gold to green)  TWC Investigation / Calibration (Systra)  Midlife Overhaul Specification HPT Upgrade ABI New Traction Motor Mount Friction Brake Kit Overhaul Ribbed Rubber Flooring PRF Door Operator Gearbox and Rollers Overhaul H-4 electronic units  Vehicle Acceptance 3P Flip Up Seat Finger Guard Find alternative Vendor for Reverse Engineer PCB Boards P2550 Compressor Dessicant Material Rubber Boots (High Voltage ) Cyclope light and Destination Sign Glass Ground Brush Schunk (Lamellar Seal failure investigation)  Readiness ATP Certification P2000 Couple/un-couple issues Junction of Blue line and Expo line Testing Junction of Blue line and Expo line Testing Expo Frog Testing	A650 Overhaul Program P2550	Procuring kifs. Knorr prototype on order - Due in October 2012    Status



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### P2550 Vehicle Acceptance Program August 2012

#### Vehicle Status Update:

• Metro has received 50 cars with 49 being final accepted and Vehicle 702 is in the acceptance stage with closeout of open items.

#### **Engineering Activities Update:**

- Event recorder: Configuration continues to be finalized. Software is on-site for final qualification.
- ATP/TWC Configuration: Final software was tested in August. Three items were identified as requiring resolution. A-STS is investigating remedies for submittal to Metro for approval in September 2012.

#### **Project Management:**

- Contract spares continue to be delivered to Metro and estimated to be 90% complete. All parts needed for day-to-day maintenance have been received. Critical parts needed for heavy repairs are beginning to arrive.
- Daily and bi-weekly meetings are scheduled with contractor management to address project issues.



### QA-Warranty Program Projects Summary August 2012

#### **QA-WARRANTY ACTIVITIES:**

- Completed 1000 Mile Burn-In Acceptance Testing August 31<sup>st</sup>, Vehicle 702 is in the acceptance stage with closeout of open items.
- On-Going, P2550 Car Mod Campaign / Testing Oversight, Component Reliability Trend Tracking.
- On-Going, P2550 parts tracking: Contract Spares, Capital Spares, Warranty Spares & Metro Loaned Parts.
- On-Going, P2550 Warranty Claims Processing
- P2550 Contract closeout issues being discussed, issues of concern are contract spare parts, METRO loaned parts, availability of source replacement parts, equipment deliverables not yet received, plus other executive management business interest.
- On-Going A650 Base Buy & Option Car Fleet Warranty Truck Frame Modification Campaign (53 Trucks of 232 modified to date). MRL Cost Avoidance savings accrued to date \$381,856.00.
- On-Going, Management's Special Interest Articulation / Cab Wiring Tightness Checks MBL & MGL P2000 Fleet Cars (24 of 52 completed).
- On-Going, Management's Special Interest 7.5K Supplemental Inspections & Articulation MBL & MGL P2000 Fleet Cars (33 of 52 completed).
- Various (19) QA PMI Audits, Spot Checks & Surprise/Unannounced Audits performed.
- On-Going QA FAI's or equipment inspection/failure investigations.
- QA oversight, MBL & MGL Fleets, (25 of 92 LRV's)Truck Inspections, Journal Bearing Housing Inspections, Damper Inspections, Wheel Back-to-Back Measurements, Wheel Flange Measurements, Wheel Residual Mount Inspections.
- 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).

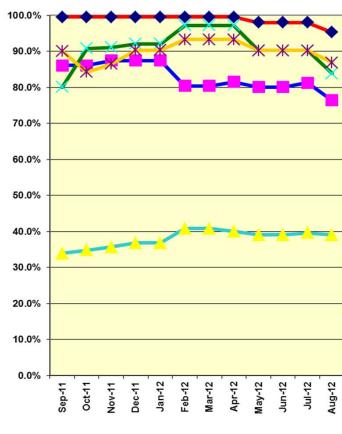


# RFS Instruction Department Activities August 2012

Training classes complete	ed during the	month	of Aug	ust 2012	<u> </u>
		Course	Student	Training	
Description		Hours	Count	Hours	
					-
Blue & Expo Line Training - (P865/2020 & P.	2000 LRV):		_		
RFS 2-WEEK RAIL INTRODUCTION RFS SIEMENS 2000 GE HARMON ATP		24	6	144	
RFS SIEMENS 2000 GE HARMON ATP		48 48	12 12	576 576	
TO SILIVILING 2000 VEHICLE STOTEWIS		40	12	370	
т	otal Blue Line 1	Γraining	(Hours):	1,296	-
Red Line Training (Breda A650 HRV):					
RFS 2-WEEK RAIL INTRODUCTION		80	2	160	
Т	Total Red Line T	160			
Green Line Training (P2000 LPVc)					
Green Line Training (P2000 LRVs): RFS 2-WEEK RAIL INTRODUCTION		80	2	160	
То	Total Green Line Training (Hours):				-
Cold Line Training (P2550 LPVe)					
Gold Line Training (P2550 LRVs): RFS 2-WEEK RAIL INTRODUCTION		80	1	80	
			-		_
T	otal Gold Line T	Training	(Hours):	80	
Total RFS Instruction for the	month of Augu	ıst 2012	(Hours):	<u>1,696</u>	
			,	7	
Other Instruction Activities					
RFS 2-WEEK RAIL INTRODUCTION preparations				80	
RFS SIEMENS 2000 VEHICLE COURSE preparation	ns			96	
Total Other Instru	ction Activities			<u>176.0</u>	
Coro Vahiala Traini	na Complete -l-	DITTE	DED	CDEEN	COL
Core Vehicle Trainii	ng Completea:	DLUE	<u>RED</u>	<u>GREEN</u>	GOL
Percentage of core vehicle train	ning complete:	76.4%	95.3%	83.8%	86.99
Siemens P2000 tra	aining complete:	39.0%	N/A	N/A	N/A
Average Specialist Rail Experience	Lavalia Vanna	10.5	10.5	8.8	9.8

**Metro** 

#### **Core Training Completed**





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