



# **Rail Fleet Services Monthly Report July 2015**



**Metro**

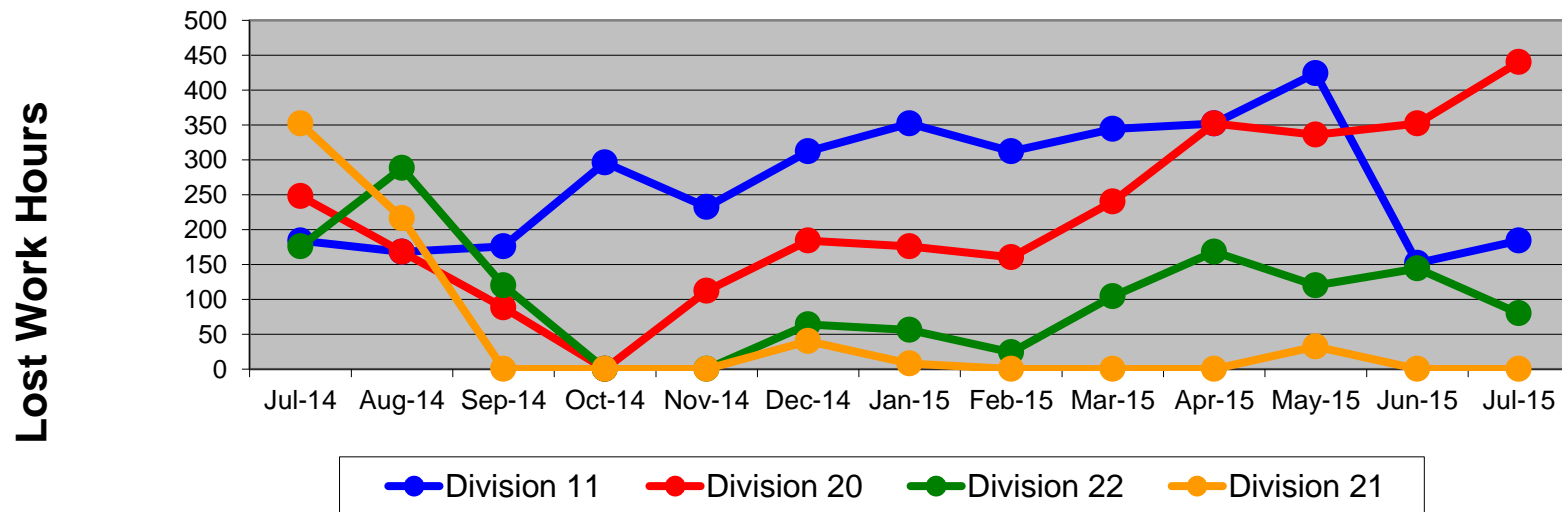
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# Industrial Injuries – Lost Work Hours July 2014-2015

	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	13-Month Period
Division 11	184	168	176	296	232	312	352	312	344	352	424	152	184	3,488
Division 20	248	168	88	0	112	184	176	160	240	352	336	352	440	2,856
Division 22	176	288	120	0	0	64	56	24	104	168	120	144	80	1,344
Division 21	352	216	0	0	0	40	8	0	0	0	32	0	0	648
Totals	960	840	384	296	344	600	592	496	688	872	912	648	704	8,336

## Industrial Injuries (lost work hours)



# Rail Vehicle Accidents & Major Incidents

## July 2014-2015

Repair Costs	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	13-Month Period
Blue/Expo Line	\$1,528	\$207	\$42,690	\$12,945	\$5,762	\$3,463	\$9,301	\$17,834	\$17,322	\$12,056	\$1,655	\$4,811	\$5,716	\$135,290
Red/Purple Line	\$0	\$0	\$0	\$4,194	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,194
Green Line	\$0	\$0	\$0	\$267	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$267
Gold Line	\$50,059	\$1,669	\$0	\$0	\$0	\$5,664	\$0	\$315	\$0	\$0	\$4,833	\$1,494	\$8,204	\$72,238
<b>Totals</b>	<b>\$51,587</b>	<b>\$1,876</b>	<b>\$42,690</b>	<b>\$17,406</b>	<b>\$5,762</b>	<b>\$9,127</b>	<b>\$9,301</b>	<b>\$18,149</b>	<b>\$17,322</b>	<b>\$12,056</b>	<b>\$6,488</b>	<b>\$6,305</b>	<b>\$13,920</b>	<b>\$211,989</b>

Rail Vehicle Accident Costs - July 2015				
Date	Incident #	Problem Code	Incident Description	Repair Cost
<b>Metro Blue/Expo Line</b>				
7/19/15	2617978	Derailment	A 10-75 was reported in the Blue Line Yard, occurred south of the Car Wash on the Arrival Track.	\$ 3,964
7/19/15	2617844	Train vs. Vehicle	A 10-73 was reported. Train 114, at 28th and Flower, Track 4, Southbound.	\$ 1,752
<b>Total</b>				<b>\$ 5,716</b>
<b>Metro Gold Line</b>				
7/3/15	2612519	Train vs. Pedestrian	A 10-72 was reported, Train 413, Del Mar Station, Track 2, Southbound.	\$ 333
7/9/15	2614579	Train vs. Vehicle	A 10-73 was reported, Train 402, Arizona, Track 2, Southbound.	\$ 7,814
7/10/15	2614569	Train vs. Vehicle	A 10-73 was reported. Train 290 Union Luggage Crossing, Track 2, Southbound.	\$ 57
<b>Total</b>				<b>\$ 8,204</b>
<b>Grand Total</b>				<b>\$ 13,920</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				

**Note:** Repair costs are only the expenses captured during the time period of the report. Actual costs may be significantly higher, if repairs are spread out over several months.

# Service Delivery July 2015

## July 2015 - Service Delivery

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

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	78	76	97%
Weekend:	60	65	108%
Late Pullouts: 0			
<b>Monthly Mileage:</b>	<b>647,899</b>		

### Red/Purple Line Fleet Size: 104

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	74	82	111%
Weekend:	54	72	133%
Late Pullouts: 0			
<b>Monthly Mileage:</b>	<b>634,682</b>		

### Green Line Fleet Size: 29

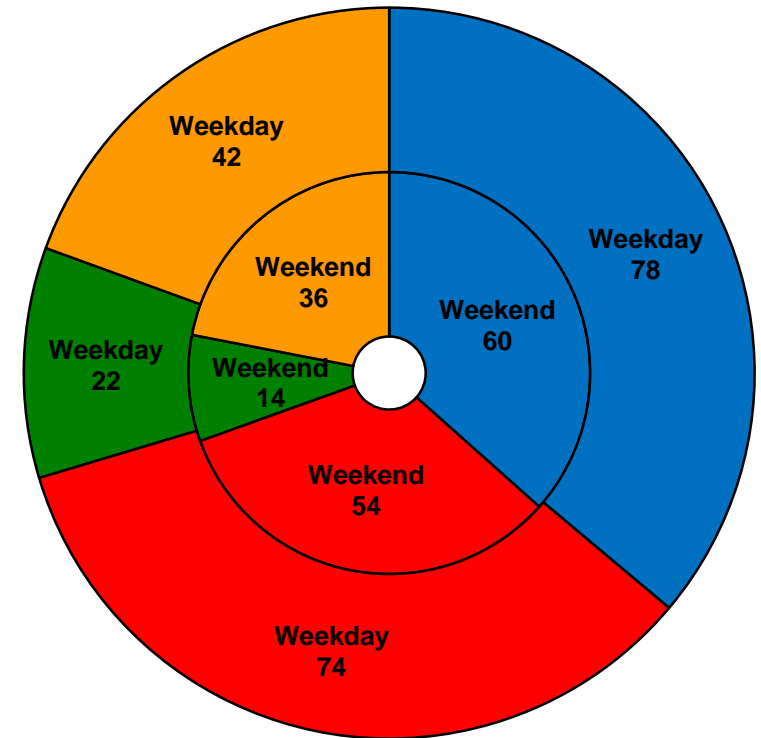
<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	22	22	100%
Weekend:	14	15	107%
Late Pullouts: 0			
<b>Monthly Mileage:</b>	<b>239,274</b>		

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

<u>Pull Out</u>	<u>Vehicles Required</u>	<u>Average Available</u>	<u>% Up (Down)</u>
Weekday:	42	43	102%
Weekend:	36	39	108%
Late Pullouts: 0			
<b>Monthly Mileage:</b>	<b>326,532</b>		

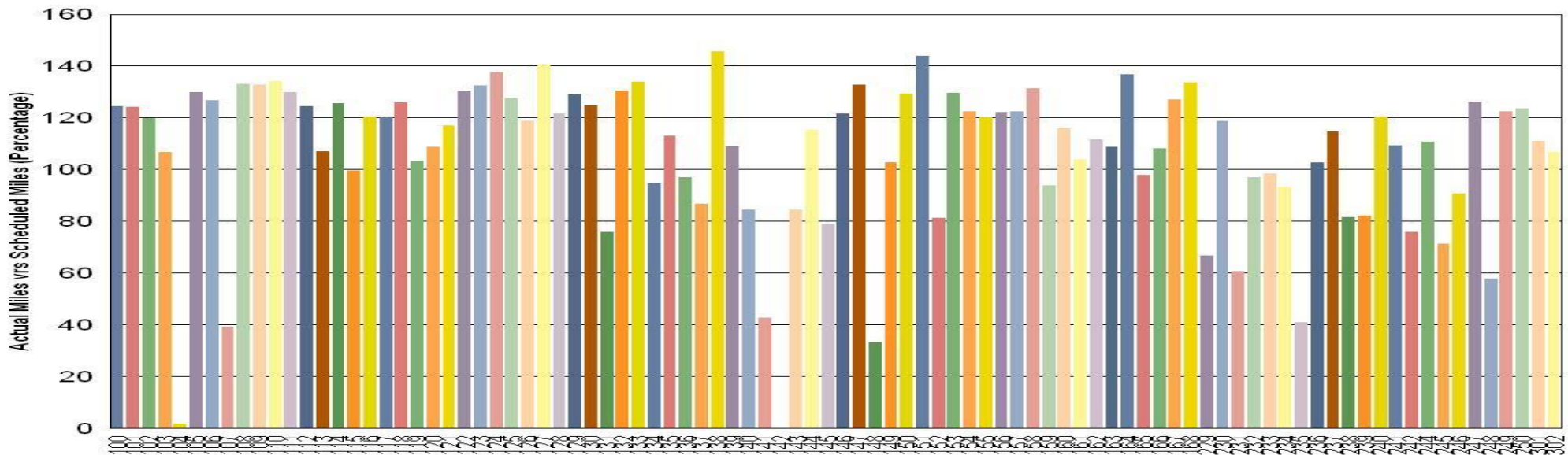
\*Two cars are out at Expo II for Acceptance Testing.

\*\*Two cars are out on the Foothill Gold Line extension to Azusa for testing.



# Vehicle Utilization July 2015

## Metro Blue/Expo Line (92 Cars)



**Blue/Expo Line:** The following cars were out of service due to:

**Car # 104** Being used at Expo II for Acceptance Testing

**Car # 107** Being used at Expo II for Acceptance Testing

**Car # 142** Accident Repairs

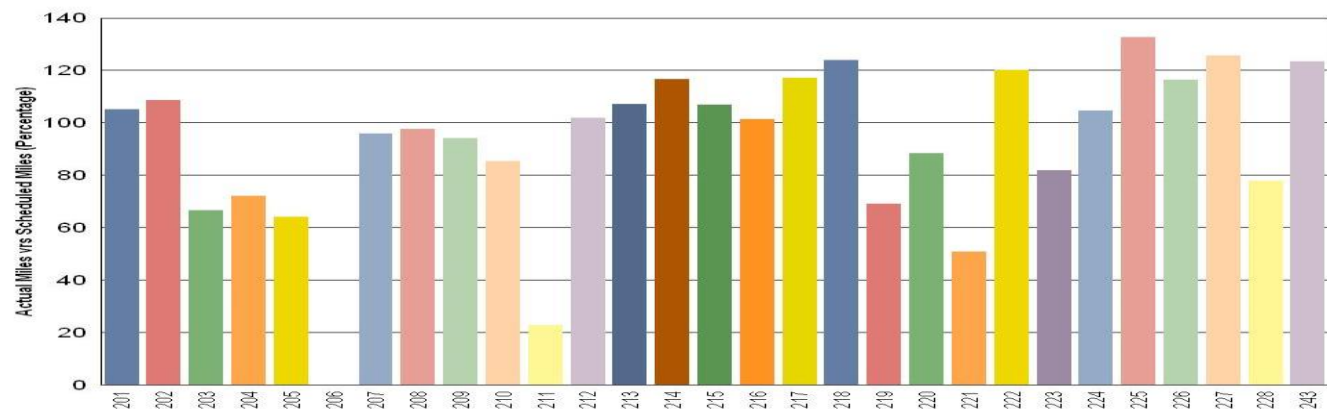
**Car # 148** Repairs and Training Vehicle

**Green Line:** The following cars were out of service due to:

**Car # 206** Unresolved EMI issue, heavy repeater, currently troubleshooting

**Car # 211** 90K Inspection

## Metro Green Line (29 Cars)



*Note: Percentage includes an average 4% mileage deduction for yard mileage and vehicle testing.*

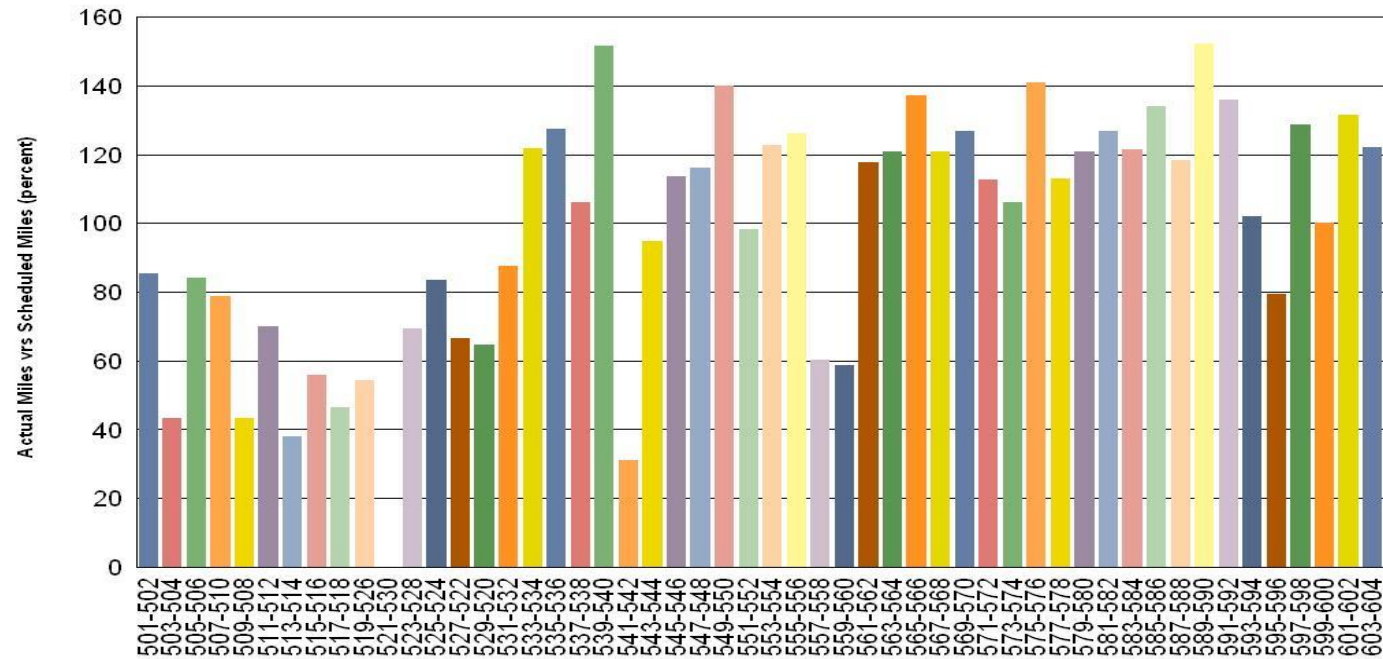
# Vehicle Utilization July 2015

## Red/Purple Line:

The following cars were out of service due to:

- Car # 513-514 Traction Motor
- Car # 521-530 Trucks/Traction Motor
- Car # 541-542 Emergency Braking

## Metro Red/Purple Line (104 Cars)

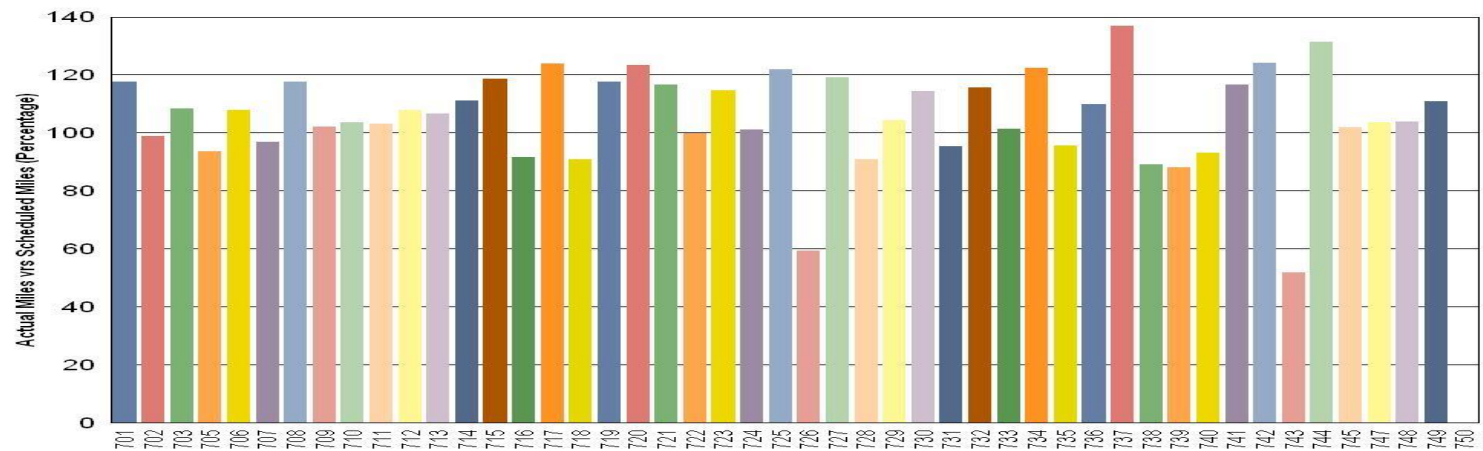


## Gold Line:

The following car was out of service due to:

- Car # 750 Auxiliary Inverter Problem

## Metro Gold Line (50 Cars)



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

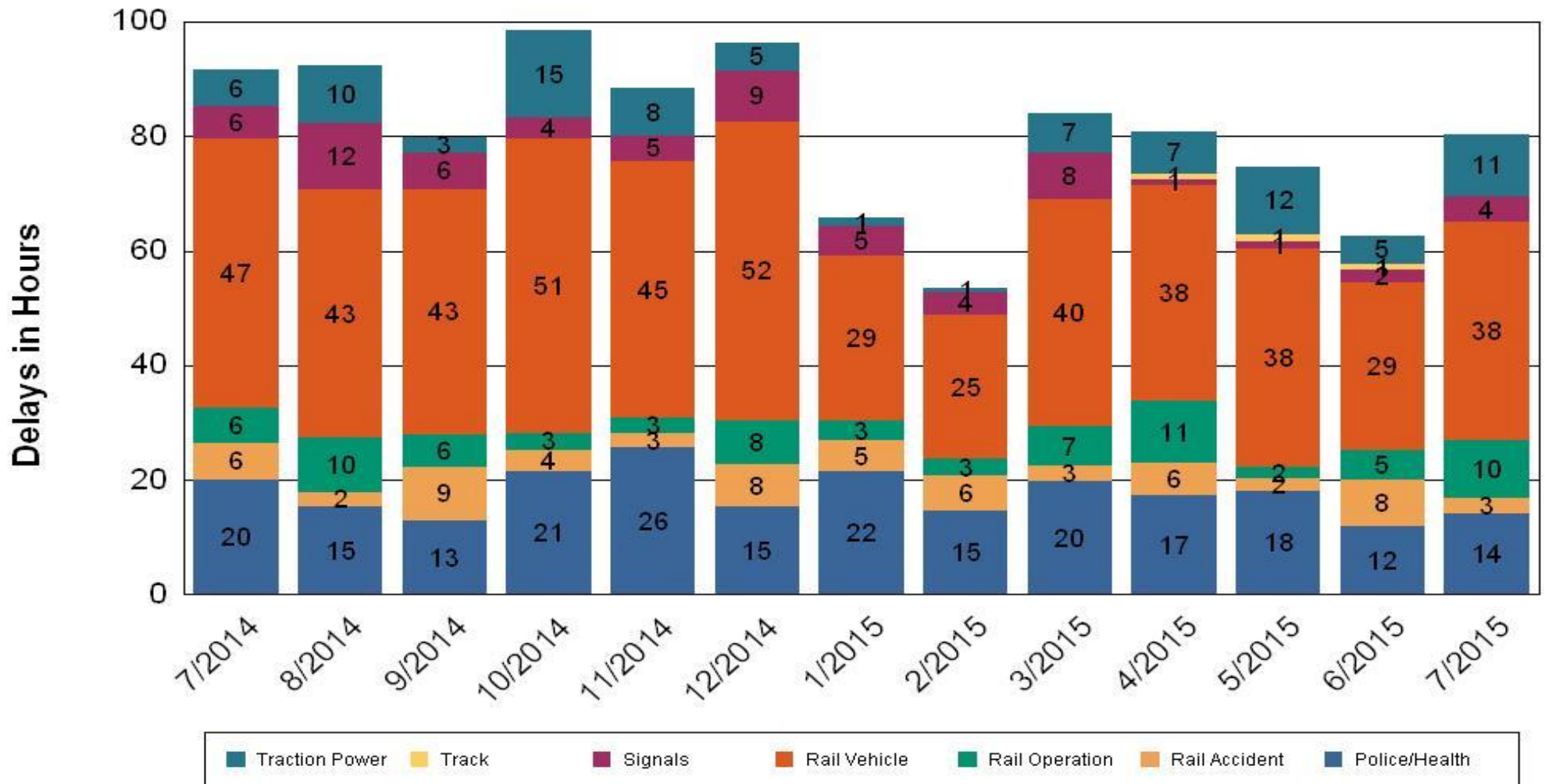




# All Train Delays (Hours) July 2014-2015

## All Train Delays

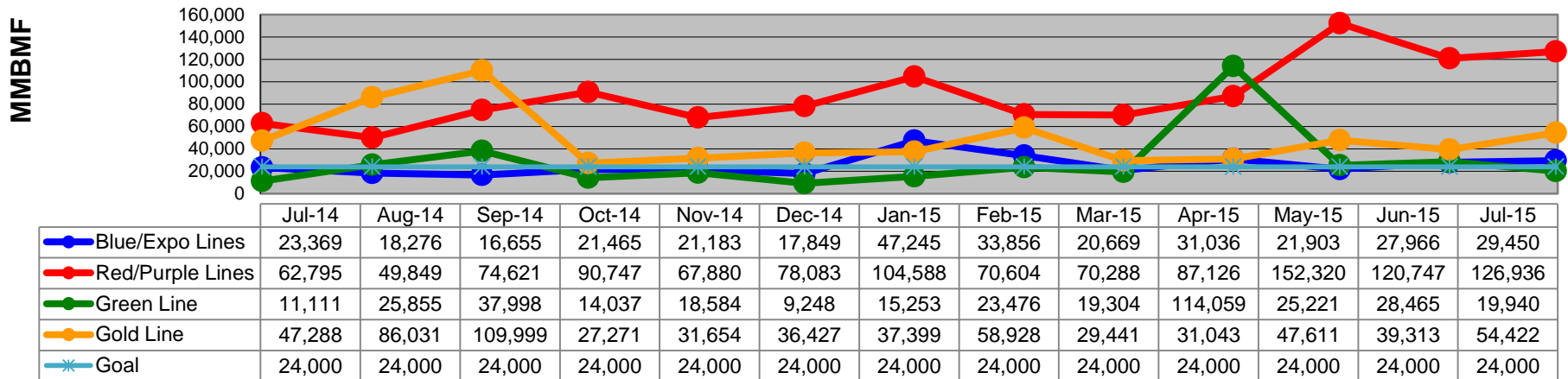
Totals Include the delay to all trains involved (not just the primary incident)



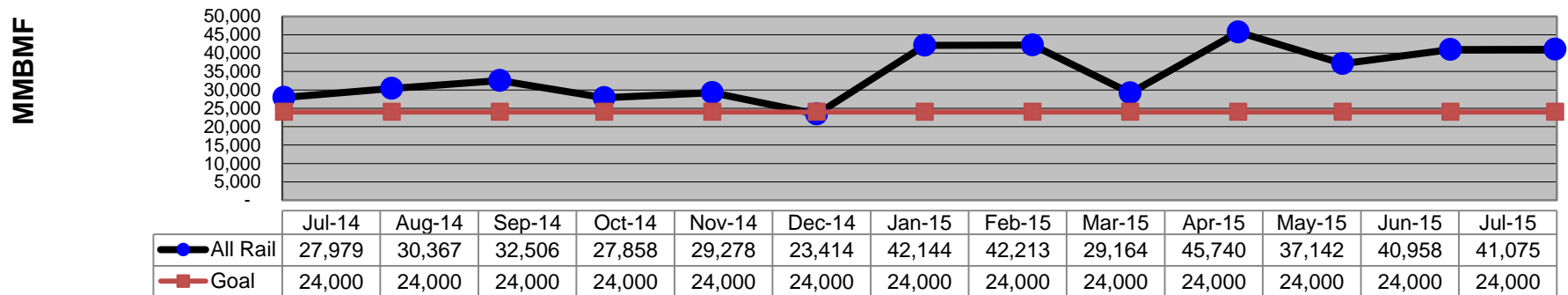


# Mean Miles Between Failures (Major) July 2014-2015

## Mean Miles Between Major Failures (by line)



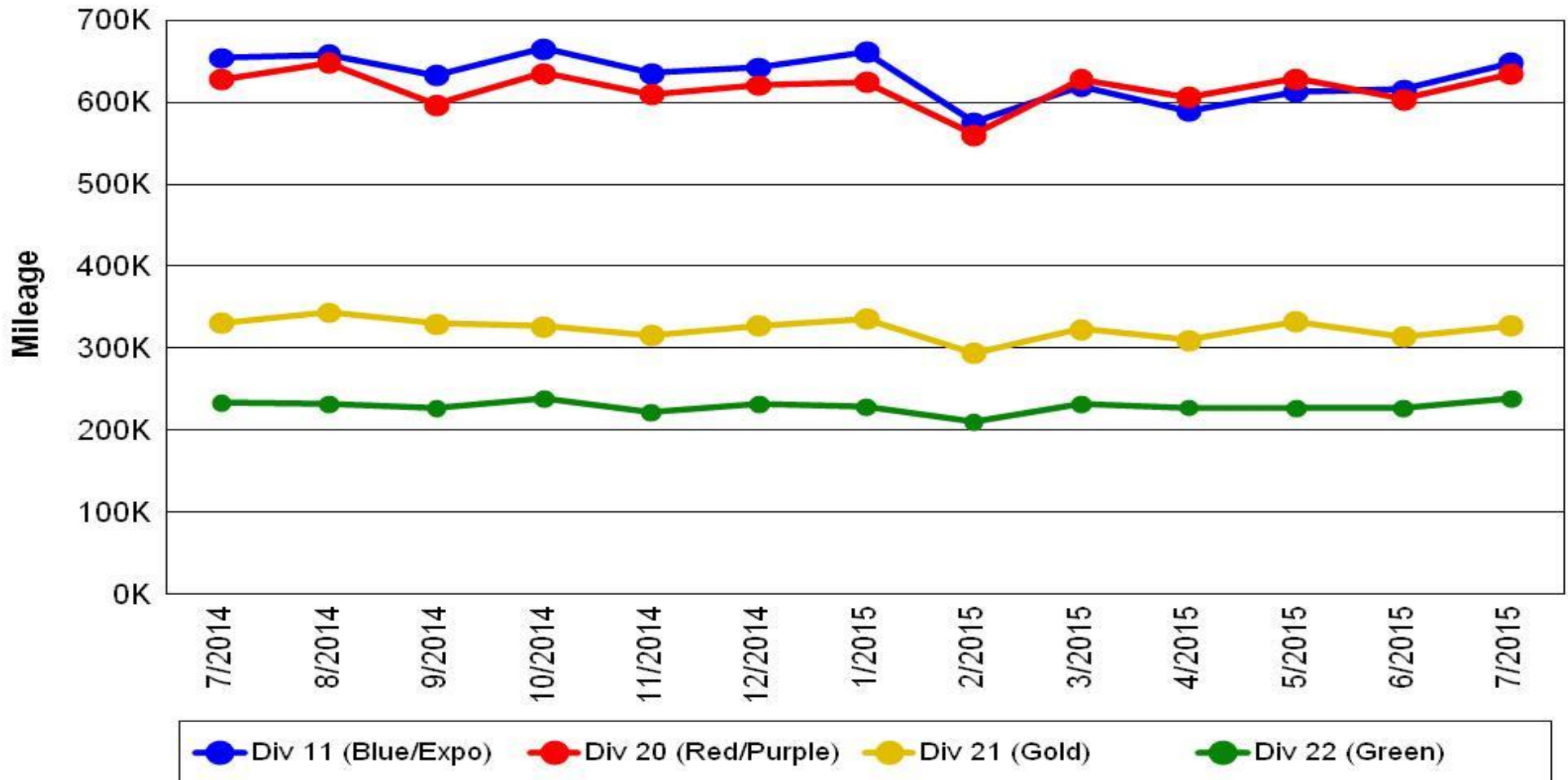
## Mean Miles Between Major Failures (all)



# Mileage Between Data Range (by month)

## July 2014-2015

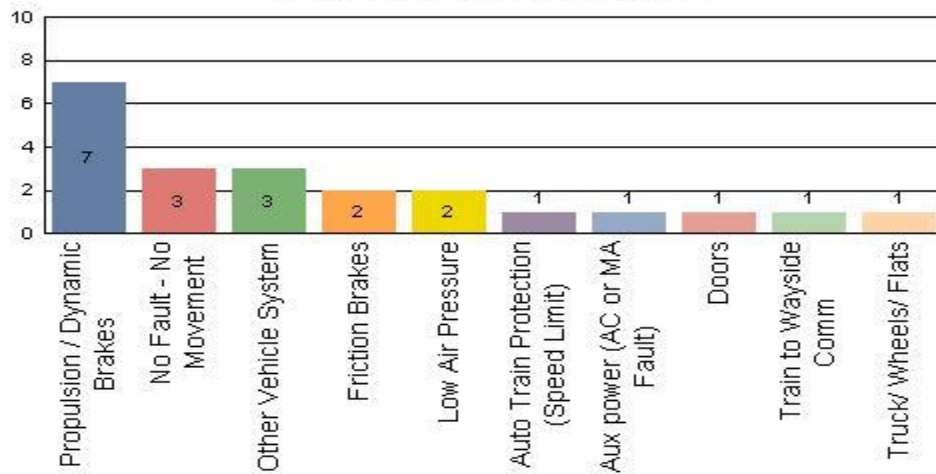
### Rail Division Monthly Mileage



# Top Incident Categories July 2015

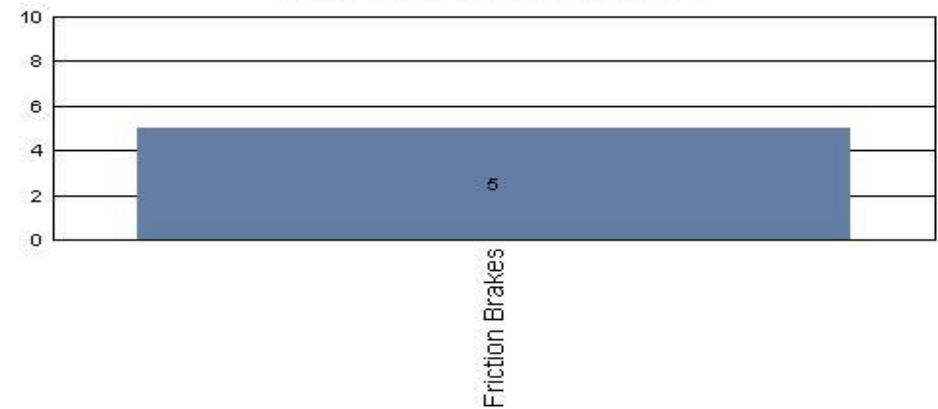
## Metro Blue/Expo Line

### Top Incident Categories



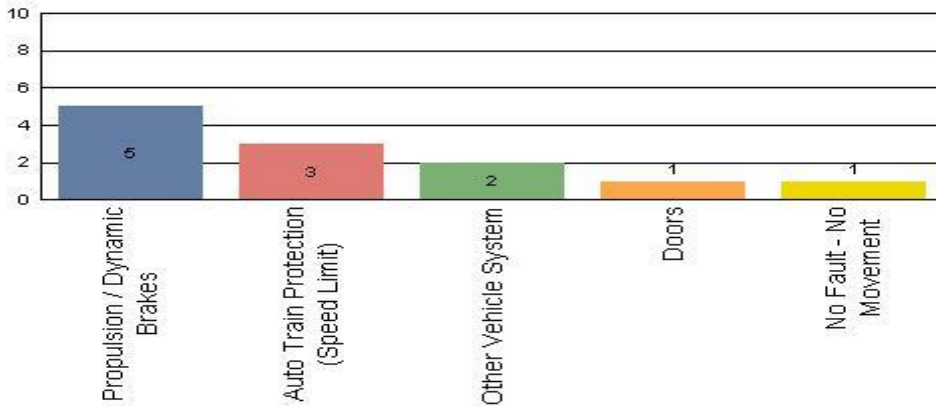
## Metro Red/Purple Line

### Top Incident Categories



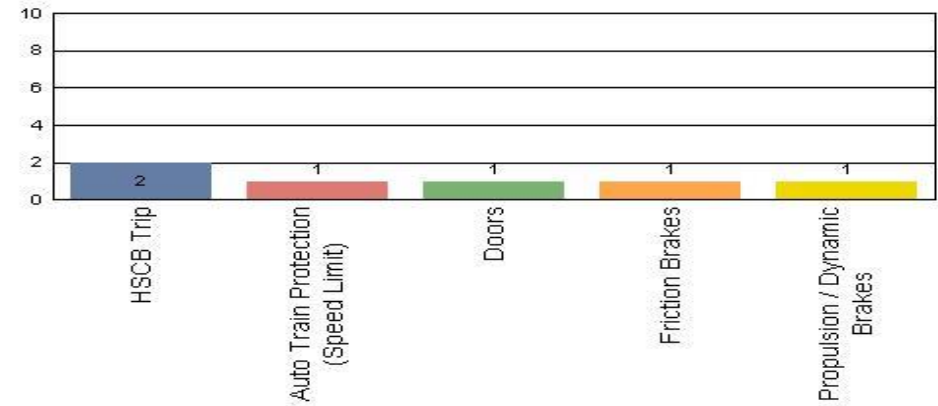
## Metro Green Line

### Top Incident Categories



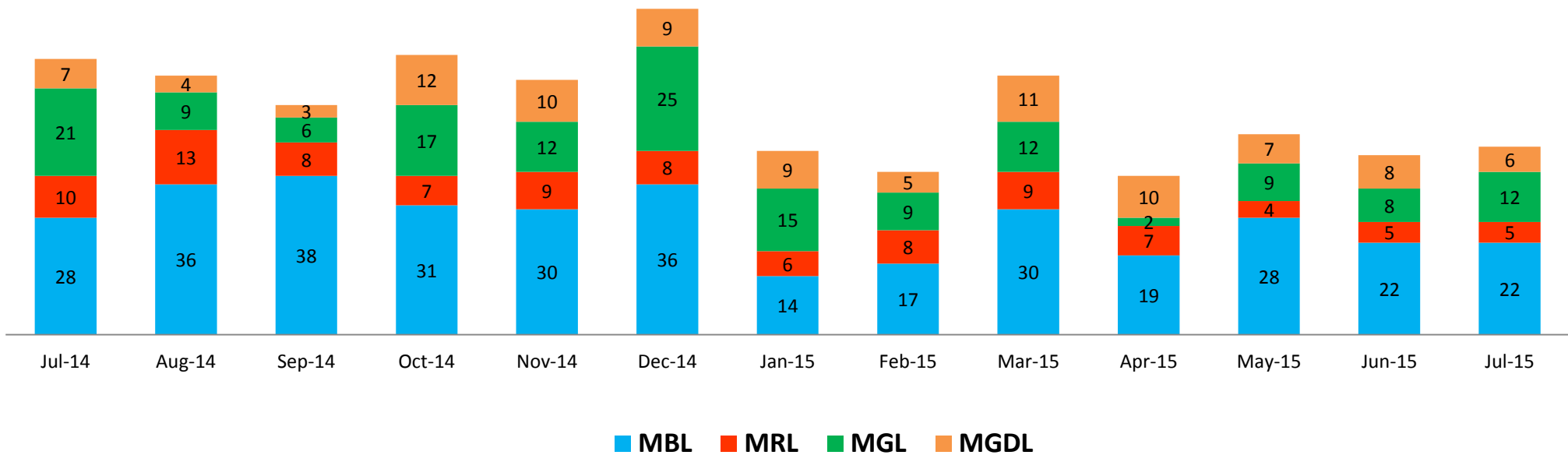
## Metro Gold Line

### Top Incident Categories



# Major Incidents July 2014-2015

## Numbers of Major System Failures (by Line)

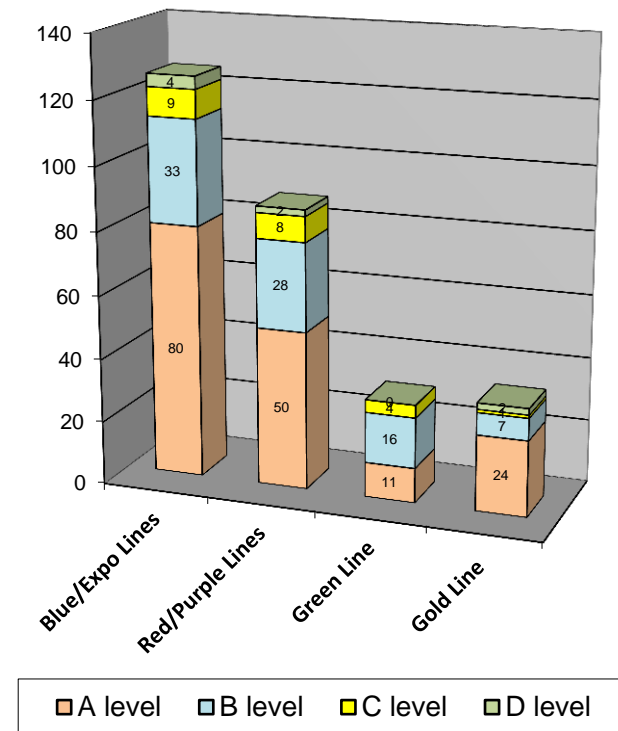


# Preventive Maintenance Compliance July 2014-2015

PM Compliance	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15
Blue/Expo Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Red/Purple Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	97%	100%	100%	100%
Green Line	100%	100%	100%	100%	97%	100%	100%	100%	100%	100%	100%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	96%	100%

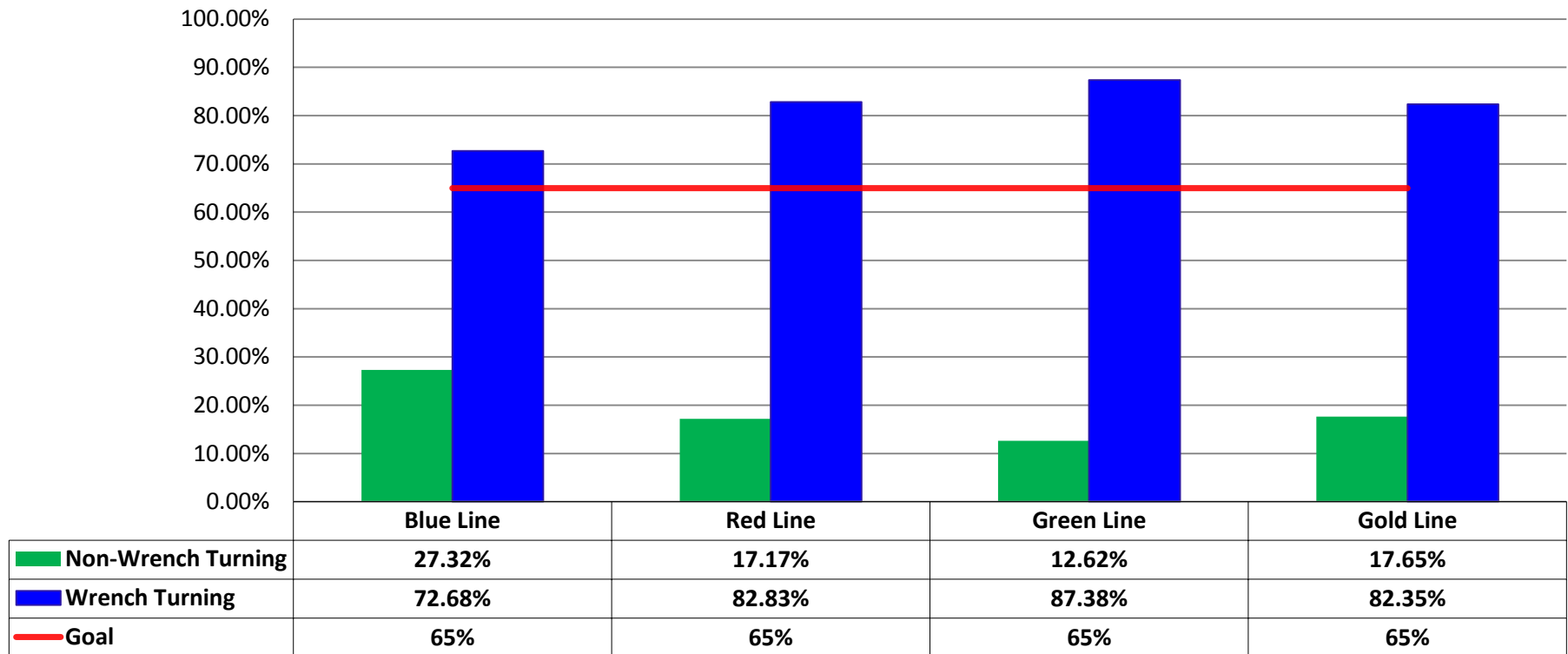
Number of Preventive Maintenance Inspections - July 2015					
Line	A level	B level	C level	D level	Totals
Blue/Expo Lines	80	33	9	4	126
Red/Purple Lines	50	28	8	2	88
Green Line	11	16	4	0	31
Gold Line	24	7	1	2	34
Totals:	165	84	22	8	279

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



# RFS Wrench Turning July 2015

## RFS - Wrench Turning July 2015



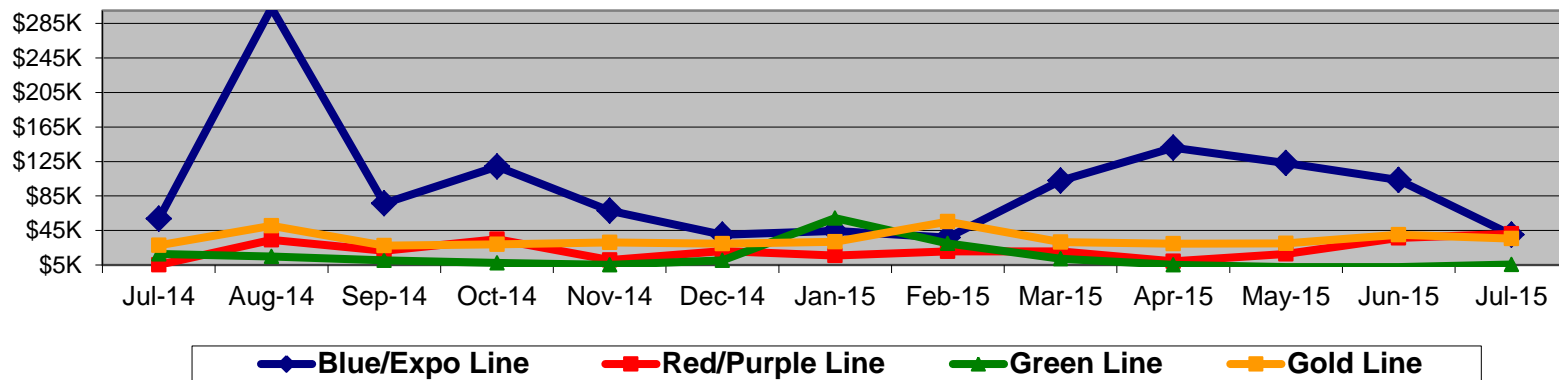
**Notes:** Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader

# Vandalism & Graffiti Report

## July 2014-2015

Graffiti Costs

	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	13-Month Period
Blue/Expo Line	\$59K	\$303K	\$77K	\$119K	\$68K	\$40K	\$45K	\$37K	\$103K	\$141K	\$123K	\$104K	\$40K	\$1257K
Red/Purple Line	\$5K	\$34K	\$22K	\$35K	\$11K	\$21K	\$16K	\$21K	\$21K	\$9K	\$18K	\$36K	\$41K	\$290K
Green Line	\$18K	\$15K	\$10K	\$8K	\$5K	\$10K	\$59K	\$30K	\$12K	\$5K	\$3K	\$3K	\$6K	\$184K
Gold Line	\$28K	\$51K	\$28K	\$29K	\$31K	\$30K	\$32K	\$55K	\$32K	\$30K	\$30K	\$40K	\$36K	\$450K
Totals:	\$110K	\$402K	\$136K	\$190K	\$115K	\$102K	\$152K	\$143K	\$167K	\$185K	\$173K	\$183K	\$123K	\$2,181K



July 2015 Vandalism & Graffiti - All Rail

	Qty	Labor	Materials	Totals
Windows Replaced	62	\$ 10,901	\$ 11,614	\$ 22,515
Vandal Shields Replaced	757	\$ 16,624	\$ 16,677	\$ 33,301
Seats Cleaned	525	\$ 5,091	\$ 4,032	\$ 9,123
Seats Inserts Replaced	448	\$ 15,052	\$ 14,184	\$ 29,236
Graffiti Removal - Other	945	\$ 18,471	\$ 2,732	\$ 21,203
Repainting Panels	233	\$ 7,340	\$ -	\$ 7,340
<b>Totals</b>	<b>2,970</b>	<b>\$ 73,479</b>	<b>\$ 49,239</b>	<b>\$ 122,718</b>



# Graffiti Pictures July 2015

## Blue Line

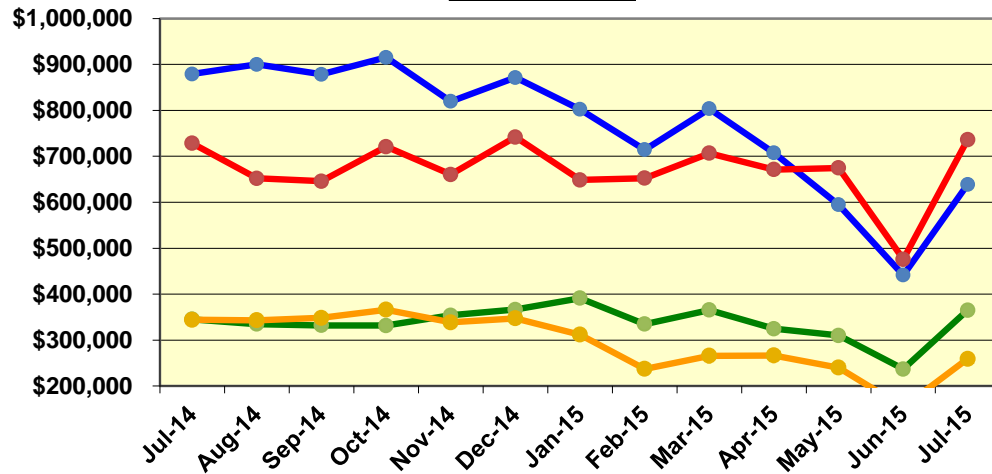


## Green Line

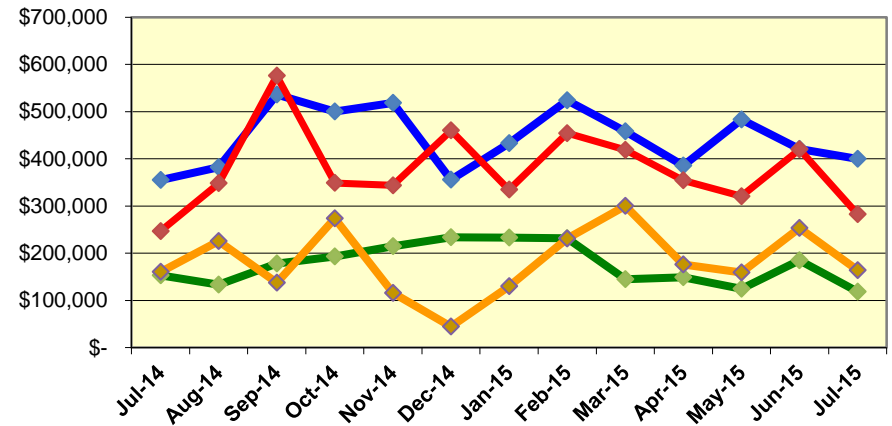


# Labor and Material Costs July 2014-2015

**Labor Costs**



**Material Costs**



	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15*	Jul-15
Labor Costs													
Blue/Expo Lines	\$ 879,339	\$ 900,043	\$ 878,598	\$ 915,432	\$ 819,497	\$ 871,682	\$ 802,256	\$ 714,349	\$ 803,757	\$ 707,348	\$ 594,550	\$ 441,364	\$ 638,967
Red/Purple Lines	\$ 728,383	\$ 652,202	\$ 645,981	\$ 721,060	\$ 660,321	\$ 741,908	\$ 648,538	\$ 652,406	\$ 706,794	\$ 671,084	\$ 674,681	\$ 475,810	\$ 736,269
Green Line	\$ 345,270	\$ 334,772	\$ 331,870	\$ 331,661	\$ 354,058	\$ 366,422	\$ 391,161	\$ 334,919	\$ 365,457	\$ 324,550	\$ 310,181	\$ 236,931	\$ 365,229
Gold Line	\$ 344,331	\$ 343,246	\$ 348,288	\$ 366,248	\$ 338,610	\$ 347,182	\$ 311,868	\$ 237,438	\$ 265,835	\$ 266,529	\$ 240,056	\$ 154,498	\$ 259,228
Totals	\$ 2,297,323	\$ 2,230,262	\$ 2,204,736	\$ 2,334,400	\$ 2,172,486	\$ 2,327,193	\$ 2,153,823	\$ 1,939,112	\$ 2,141,842	\$ 1,969,511	\$ 1,819,467	\$ 1,308,603	\$ 1,999,693

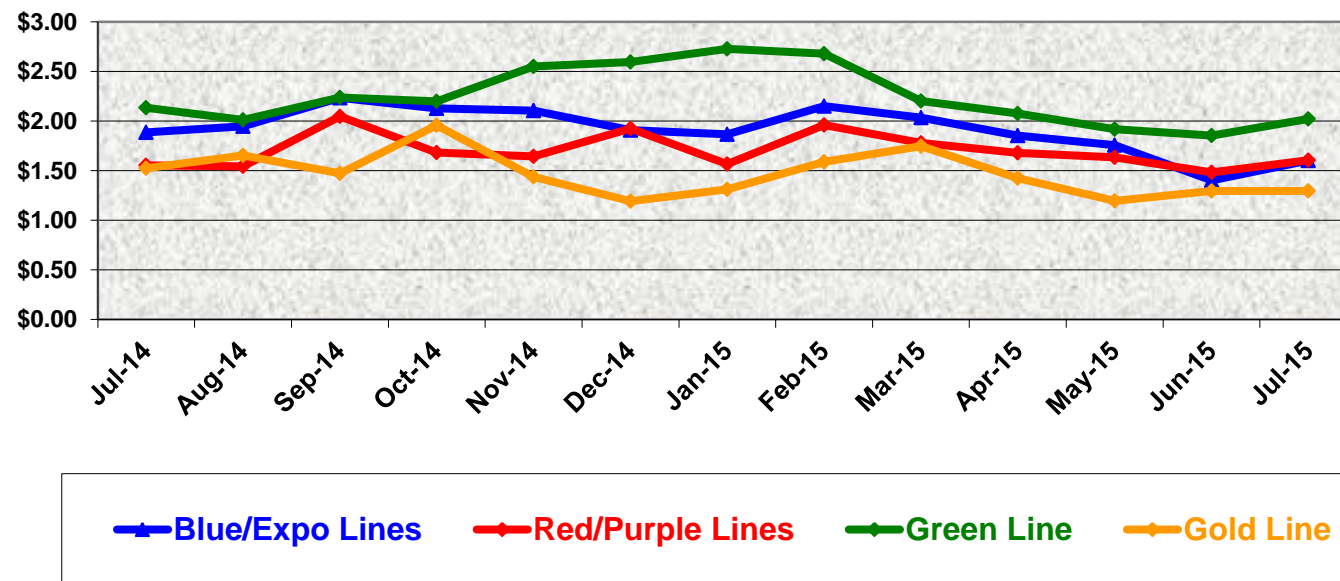
	Material Costs												
Blue/Expo Lines	\$ 355,405	\$ 382,184	\$ 536,100	\$ 500,390	\$ 518,334	\$ 355,729	\$ 433,347	\$ 524,157	\$ 458,588	\$ 385,794	\$ 483,368	\$ 421,088	\$ 400,315
Red/Purple Lines	\$ 247,048	\$ 348,370	\$ 576,230	\$ 349,031	\$ 343,936	\$ 460,076	\$ 334,623	\$ 454,326	\$ 419,099	\$ 354,492	\$ 320,754	\$ 420,042	\$ 282,744
Green Line	\$ 153,001	\$ 133,386	\$ 178,206	\$ 193,176	\$ 214,902	\$ 234,118	\$ 233,318	\$ 231,562	\$ 144,927	\$ 148,839	\$ 125,054	\$ 185,086	\$ 118,559
Gold Line	\$ 160,751	\$ 225,818	\$ 137,883	\$ 274,059	\$ 116,179	\$ 44,498	\$ 130,036	\$ 230,896	\$ 300,170	\$ 175,922	\$ 159,016	\$ 253,284	\$ 163,954
Totals	\$ 916,204	\$ 1,089,759	\$ 1,428,418	\$ 1,316,657	\$ 1,193,351	\$ 1,094,420	\$ 1,131,324	\$ 1,440,941	\$ 1,322,783	\$ 1,065,048	\$ 1,088,194	\$ 1,279,500	\$ 965,571

Note: \*Preliminary labor and material costs for June 2015 due to FY15 fiscal year ending awaiting accrual process.

# Cost Per Mile July 2014-2015

Cost per mile:	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Average
Blue/Expo Lines	\$1.89	\$1.95	\$2.24	\$2.13	\$2.11	\$1.91	\$1.87	\$2.15	\$2.04	\$1.85	\$1.76	\$1.40	\$1.60	\$1.91
Red/Purple Lines	\$1.55	\$1.54	\$2.05	\$1.68	\$1.64	\$1.92	\$1.57	\$1.96	\$1.78	\$1.68	\$1.63	\$1.48	\$1.61	\$1.70
Green Line	\$2.14	\$2.01	\$2.24	\$2.20	\$2.55	\$2.60	\$2.73	\$2.68	\$2.20	\$2.08	\$1.92	\$1.85	\$2.02	\$2.25
Gold Line	\$1.53	\$1.65	\$1.47	\$1.96	\$1.44	\$1.19	\$1.31	\$1.59	\$1.75	\$1.43	\$1.20	\$1.30	\$1.30	\$1.47

Cost per Mile



# ATU Absences vs. Overtime

## July 2015

ABSENCE TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	Total
AWP-ABSENT W/O PERMISSION	16	-	16	-	32
BER-BEREAVEMENT	72	88	24	48	232
CTO-COMPENSATORY TIME OFF	92	84	8	64	248
CUT-EMPLOYEE LEAVES EARLY	1	-	-	0	1
DSL-DISABILITY LEAVE/LONG	864	384	-	112	1,360
EFH-EMG. FLOAT HOL.	48	144	64	64	320
ETO-EXCUSED TIME OFF	116	23	4	25	167
FMI-FAM IND INJURY	24	176	-	-	200
FML-FAMILY CARE LEAVE	448	702	88	432	1,670
FMS-FAMILY LEAVE SICK	43	412	-	128	583
HLF-HOLIDAY FLOATING	917	640	352	208	2,117
HNP-HOLIDAY NOT PAID	-	48	16	16	80
HOL-HOLIDAY LEGAL	672	496	176	200	1,544
II-INDUSTRIAL INJURY	-	-	80	-	80
IPD-INJURED PARTIAL DAY	-	4	-	-	4
JUR-JURY DUTY	32	-	8	-	40
LC1-LABOR CODE 233	128	105	159	64	456
LTI-OCCPIL/LONGTRM INJ LEAVE	184	440	-	-	624
MLN-MILITARY ABSENCE-UNPAID	32	-	-	-	32
RTO-REQUESTED TIME OFF-NO PAY	198	1	-	-	199
SCK-SICK PAY	136	64	113	124	437
SCW-SICK WITHOUT PAY	88	16	48	72	224
SUS-DISCIPLINARY SUSPENSION	32	-	-	-	32
TAR-TARDY	1	1	2	1	5
VAC-VACATION	1,962	1,872	823	1,088	5,745
<b>Total Absence Hours</b>	<b>6,105</b>	<b>5,700</b>	<b>1,981</b>	<b>2,646</b>	<b>16,432</b>
ATU Number of Work Force (budget)	125	104	46	48	323
Full Work Force hours/month	21,663	18,023	7,972	8,318	55,976
<b>Absence as a % of Work Force</b>	<b>28%</b>	<b>32%</b>	<b>25%</b>	<b>32%</b>	<b>29%</b>

OVERTIME TYPE and HOURS	3941 & 3947 Blue & Expo	3942 Red	3943 Green	3944 Gold	Total
CTB-COMPENSATORY TIME TO BANK	532	602	140	250	1,524
OTP-PREM OVERTIME	4,134	4,361	1,115	724	10,336
WLO-Worked Lunch Overtime	122	134	85	36	377
<b>Total Overtime Hours</b>	<b>4,788</b>	<b>5,098</b>	<b>1,340</b>	<b>1,011</b>	<b>12,237</b>
<b>Overtime as a % of Work Force</b>	<b>22%</b>	<b>28%</b>	<b>17%</b>	<b>12%</b>	<b>22%</b>

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



# RFS Instruction Department Activities

## July 2015

### Training classes completed during the month of July 2015

Description	Course Hours	Student Count	Training Hours
<b>Blue &amp; Expo Line Training - (P865/2020 &amp; P2000 LRV):</b>			
RFS 865/2020 LIGHTING & DEST	12	8	96
RFS 865/2020 COUPLER	8	7	56
RFS 865/2020 COMMUNICATIONS	8	8	64
RFS 865/2020 DOOR CONTROL SYS.	56	8	448
RFS 865/2020 ATP & TWC	48	8	384
RFS SIEMENS 2000 US&S ATP/ATO/TWC	48	8	384
RFS SIEMENS 2000 COMMUNICATIONS	8	8	64
RFS SIEMENS 2000 PANTOGRAPH	12	8	96
RFS SIEMENS 2000 LIGHTS & DEST SIGN	16	8	128
RFS SIEMENS 2000 COUPLER	88	8	704
RFS SIEMENS 2000 HVAC	64	8	512
REFRIGERANT RECOVERY SYSTEMS (608)	16	8	128
<b>Total Blue Line Training (Hours):</b>			<b>3,064</b>
<b>Gold Line Training (P2550 LRVs):</b>			
RFS ANSALDOBREDA 2550 COMMUNICATIONS	24	8	192
RFS ANSALDOBREDA 2550 EVENT RECORDER	16	8	128
RFS ANSALDOBREDA 2550 INTEGRATED DISPLAY	24	8	192
RFS ANSALDOBREDA 2550 A.T.P. & T.W.C.	32	8	256
<b>Total Gold Line Training (Hours):</b>			<b>768</b>
<b>Green Line Training (P2000 LRVs):</b>			
RFS SIEMENS 2000 COUPLER	8	4	32
RFS SIEMENS 2000 T/B, SANDERS	8	4	32
RFS SIEMENS 2000 FRICTION BRAKES	48	4	192
RFS SIEMENS 2000 HVAC	32	4	128
<b>Total Green Line Training (Hours):</b>			<b>384</b>
<b>Total RFS Instruction for the month of July 2015 (Hours):</b>			<b>4,216</b>

### Other Instruction Activities

A650 Curriculum, Administrative, and Technical Support	80
P865/P2020 Curriculum, Administrative, and Technical Support	40
P2000 Curriculum, Administrative, and Technical Support	80
P2550 Curriculum, Administrative, and Technical Support	40
Instructor Vacation	80

**Total Other Instruction Activities 320**

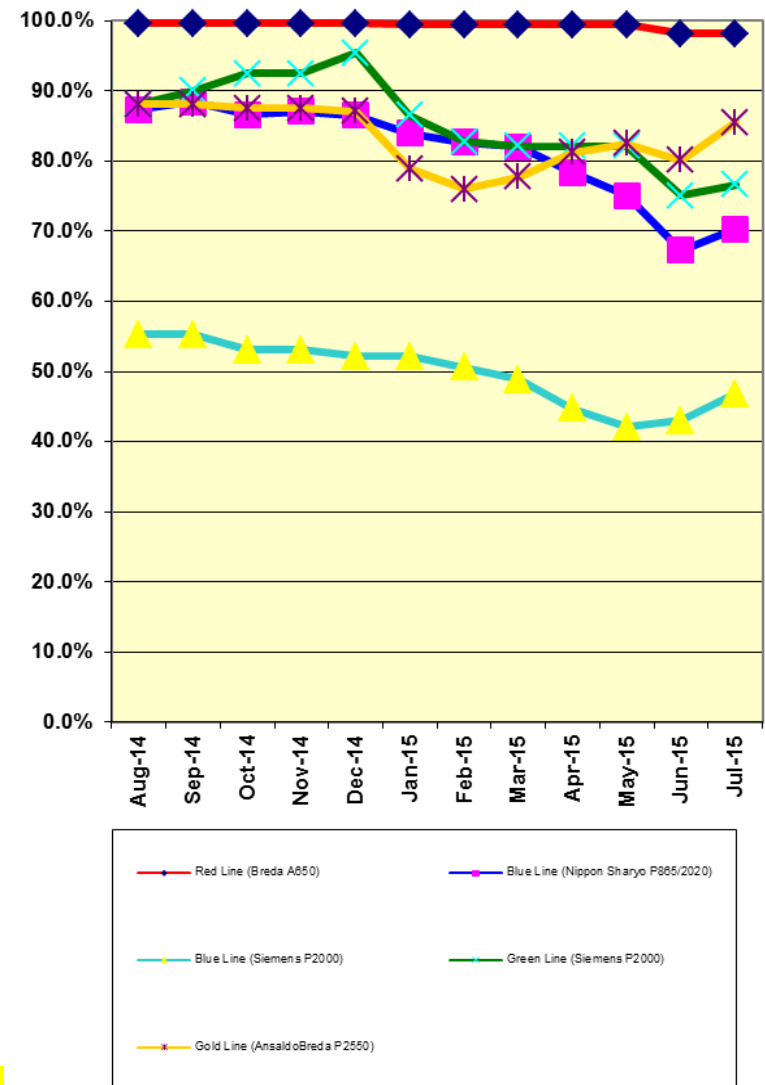
**Core Vehicle Training Completed: BLUE RED GREEN GOLD**

**Percentage of core vehicle training complete: 70.3% 98.2% 76.6% 85.5%**

**Siemens P2000 training complete: 46.8% N/A N/A N/A**

**Average Specialist Rail Experience Level in Years: 9.9 11.8 7.9 8.6**

### Core Training Completed



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