

Rail Fleet Services Monthly Report November 2016



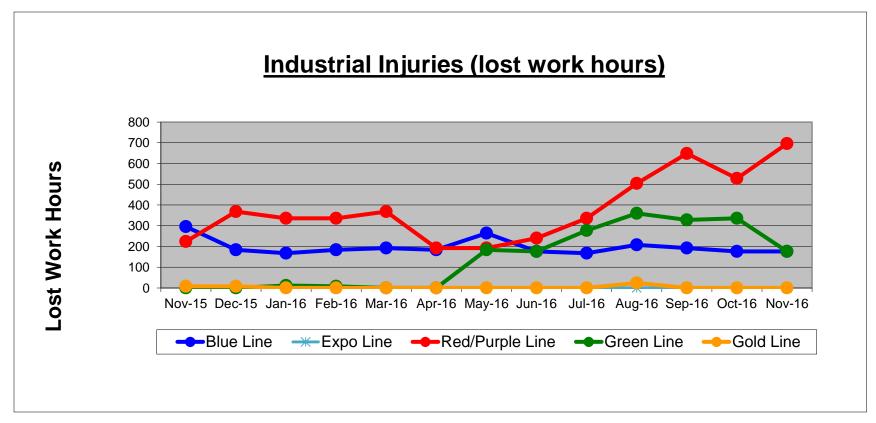
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Industrial Injuries – Lost Work Hours November 2015-2016

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	13-Month Period
Blue Line	296	184	168	184	192	184	264	176	168	208	192	176	176	2,568
Expo Line	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red/Purple Line	224	368	336	336	368	192	192	240	336	504	648	528	696	4,968
Green Line	0	0	12	8	0	0	184	176	277	360	328	336	176	1,857
Gold Line	8	8	0	0	0	0	0	0	0	24	0	0	0	40
Totals	528	560	516	528	560	376	640	592	781	1,096	1,168	1,040	1,048	9,433





Rail Vehicle Accidents & Major Incidents November 2015-2016

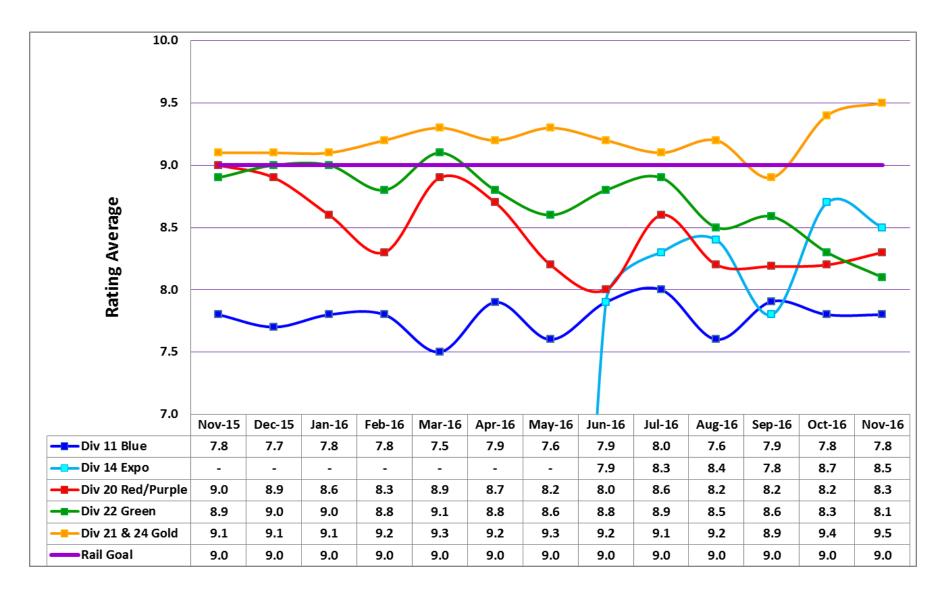
Repair Costs	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	13-Month Period
Blue Line	\$65,454	\$17,160	\$4,570	\$7,379	\$2,037	\$1,232	\$513	\$0	\$0	\$3,211	\$665	\$28,089	\$0	\$130,310
Expo Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$576	\$0	\$12,921	\$9,468	\$0	\$22,965
Red/Purple Line	\$0	\$0	\$0	\$0	\$0	\$1,284	\$0	\$1,932	\$840	\$552	\$0	\$0	\$0	\$4,608
Green Line	\$0	\$23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,535	\$0	\$0	\$0	\$51,558
Gold Line	\$1,547	\$1,547	\$0	\$53	\$1,487	\$4,646	\$0	\$19,451	\$564	\$0	\$0	\$5,694	\$0	\$34,989
Totals	\$67,001	\$18,730	\$4,570	\$7,432	\$3,524	\$7,162	\$513	\$21,383	\$1,980	\$55,298	\$13,586	\$43,251	\$0	\$244,430

Rail Vehicle Accident Costs - November 2016												
Date	Incident #	Problem Code	Incident Description	Repair C	ost							
Metro Blu	e Line											
11/11/16	2800973	N/A	Reports of smoking brakes at 14th Street and Long Beach Blvd, Track 2, SB.	\$ -	-							
			Metro Blue Line Total	\$	_							
			Grand Total	\$	-							
10-71 = Train vs. Object/ 10-72 = Train vs. Pedestrian/ 10-73 = Train vs. Vehicle/ 10-74 = Train vs. MTA Vehicle/ 10-75 = Derailmen												

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.



Rail Vehicle – Car Cleanliness November 2015-2016





Service Delivery November 2016

November 2016 - Service Delivery

Blue Line Fle	et Size: 74		
	Average Vehicles	<u>Average</u>	
Pull Out	<u>Required</u>	<u>Available</u>	% Up (D
1471-1-		C4	4050

 Pull Out
 Required
 Available
 % Up (Down)

 Weekday:
 58
 61
 105%

 Weekend:
 26
 55
 212%

Monthly Mileage: 449,467

Expo Line Fleet Size: 41

 Average Vehicles
 Average

 Pull Out
 Required
 Available
 % Up (Down)

 Weekday:
 39
 38
 97%

 Weekend:
 35
 38
 109%

Monthly Mileage: 291,077

Red/Purple Line Fleet Size: 104

 Average Vehicles
 Average

 Pull Out
 Required
 Available
 % Up (Down)

 Weekday:
 74
 78
 105%

 Weekend:
 54
 68
 126%

Monthly Mileage: 629,674

Green Line Fleet Size: 29

 Average Vehicles
 Average

 Pull Out
 Required
 Available
 % Up (Down)

 Weekday:
 22
 22
 100%

 Weekend:
 14
 16
 114%

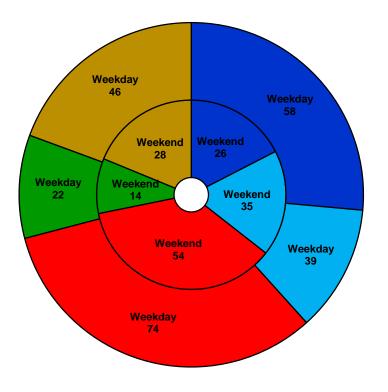
Monthly Mileage: 225,140

Gold Line Fleet Size: 60

	Average Vehicles	<u>Average</u>	
Pull Out	Required	<u>Available</u>	% Up (Down)
Weekday (Div 21):	10	10	100%
Weekday (Div 24):	36	39	108%
Weekend (Div 24):	28	39	139%

*Monthly Mileage: 493,049

* Gold Line monthly mileage includes Division 21 and 24.



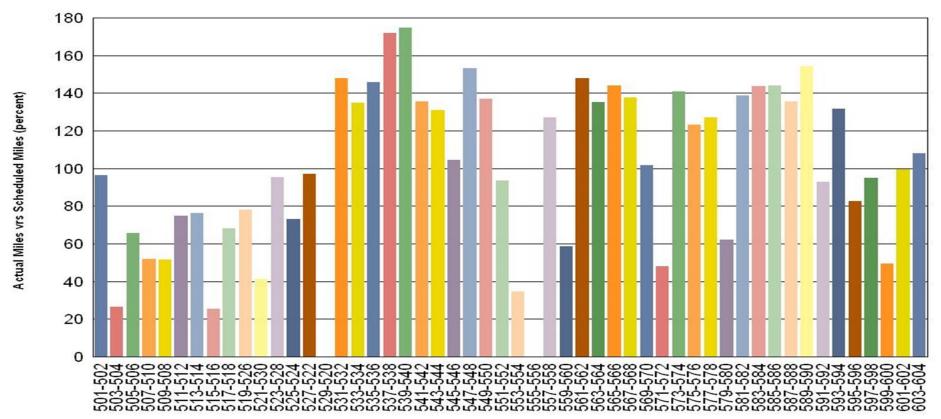




Metro

Vehicle Utilization November 2016

Metro Red/Purple Line (104 Cars)



Red/Purple Line:

The following cars were out of service due to:

Car # 503-504 - Propulsion Fault

Car # 515-516 – Propulsion Fault and Inspection

Car # 529-520 - Waiting for Blower Motors

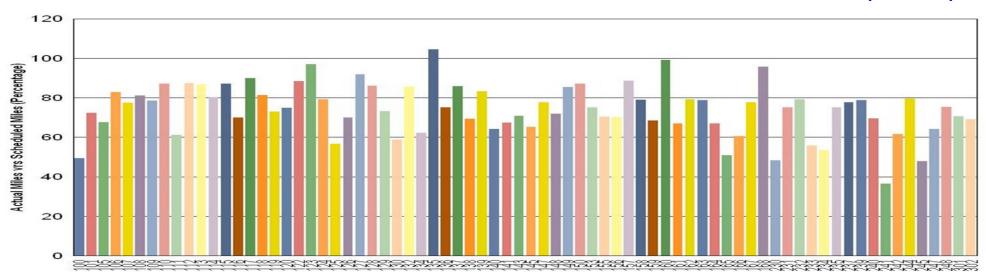
Car # 553-554 - Propulsion Fault

Car # 555-556 - Floor Replacement Project



Vehicle Utilization November 2016

Metro Blue Line (74 Cars)



Blue Line: The following car was out of service due to:

Car # 241: Truck Repairs

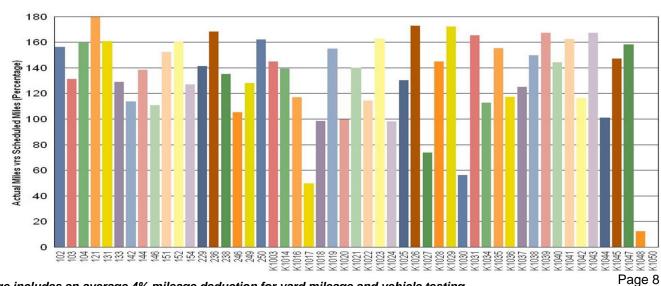
Metro Expo Line (41 Cars)

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

Car # K1048 - Accident Repairs

Car # K1050 - New Accepted 11/28/2016





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

Vehicle Utilization November 2016

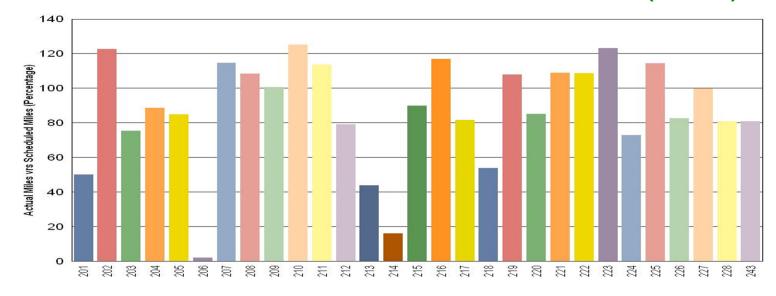
Metro Green Line (29 Cars)

Green Line:

The following cars were out of service due to:

Car # 206 – Engineering Hold (EMI)

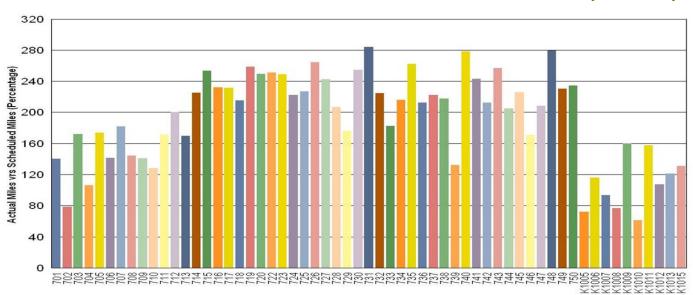
Car # 214 - Propulsion Faults



Metro Gold Line (60 Cars)

Gold Line:

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

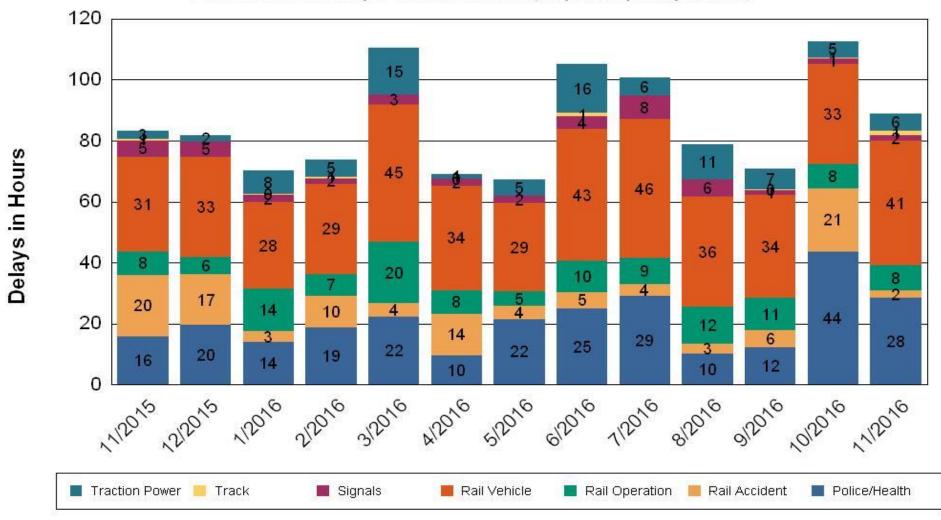




All Train Delays (Hours) November 2015-2016

All Train Delays

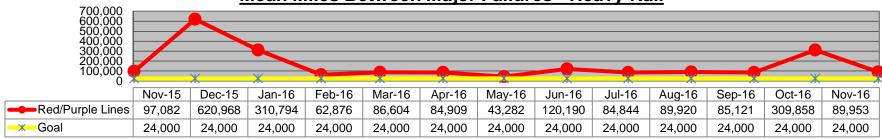
Totals Include the delay to all trains involved (not just the primary incident)



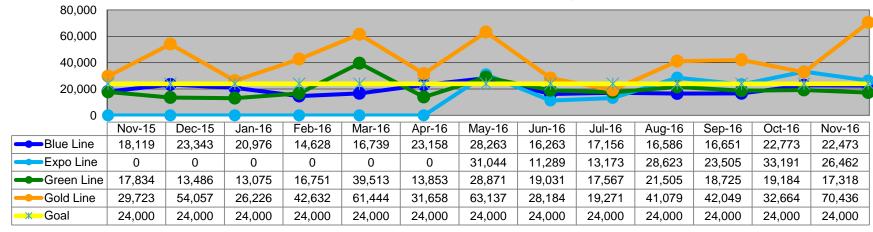


Mean Miles Between Failures (Major) November 2015-2016

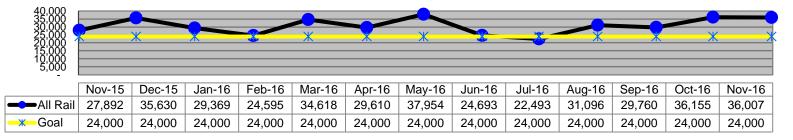
Mean Miles Between Major Failures - Heavy Rail



Mean Miles Between Major Failures - Light Rail



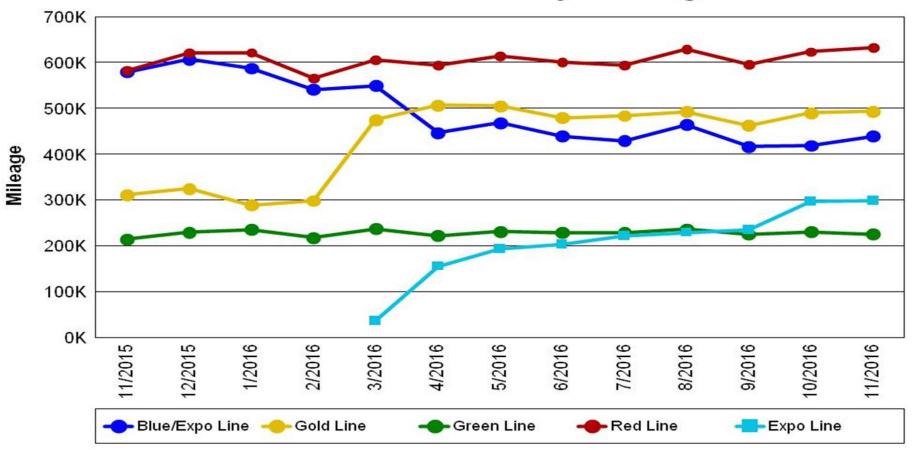
Mean Miles Between Major Failures (all)





Mileage Between Data Range (by month) November 2015-2016

Rail Division Monthly Mileage



Notes:

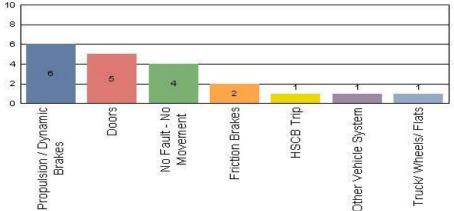
- ❖ Gold Line increase in mileage is due to the open of the Foothill extension, which includes stations further apart and faster average running speeds.
- * With the opening of Division 14 in Santa Monica, the Expo Line mileage is now being reported separately from the Blue Line.



Top Incident Categories November 2016

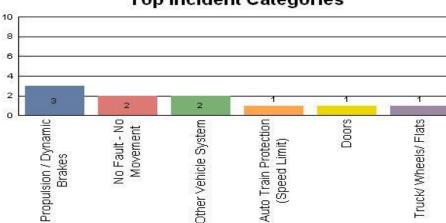
Metro Blue Line (Div 11)

Top Incident Categories



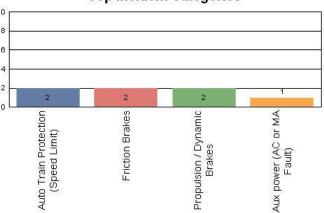
Metro Expo Line (Div 14)

Top Incident Categories

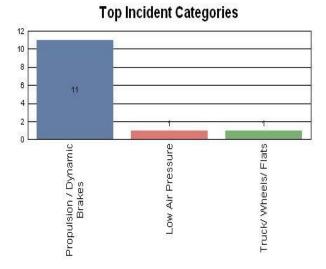


Metro Red/Purple Line (Div 20)

Top Incident Categories

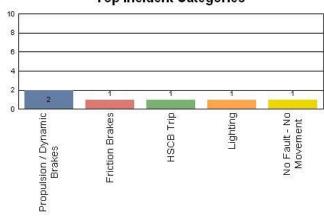


Metro Green Line (Div 22)



Metro Gold Line (Div 21 & Div 24)

Top Incident Categories

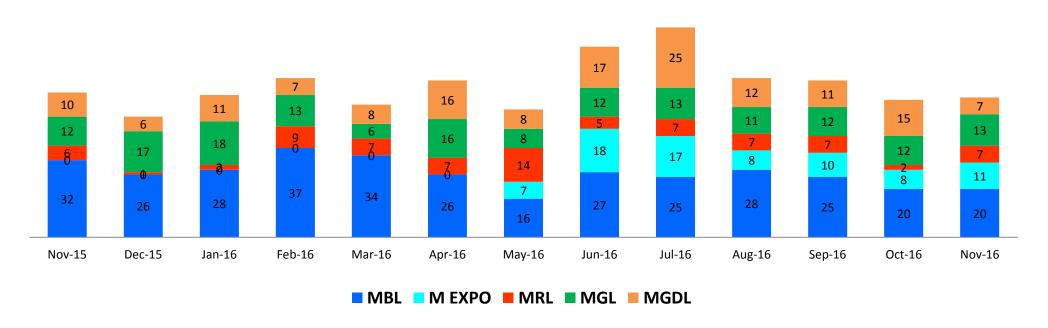




Major Incident: When a train does not complete its scheduled run or is more than 5 minutes late of its scheduled arrival time.

Major Incidents November 2015-2016

Numbers of Major System Failures (by Line)



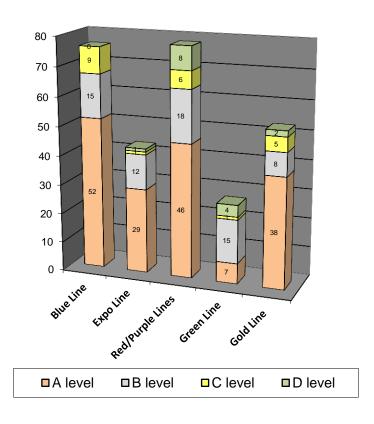


Preventive Maintenance Compliance November 2015-2016

PM Compliance	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16
Blue Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Expo Line	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%
Red/Purple Lines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Green Line	93%	97%	97%	100%	100%	100%	93%	100%	100%	100%	97%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Number of Preve	ntive Maint	enance In	spections -	November	2016
Line	A level	B level	D level	Totals	
Blue Line	52	15	9	0	76
Expo Line	29	12	1	1	43
Red/Purple Lines	46	18	6	8	78
Green Line	7	15	1	4	27
Gold Line	38	8	5	2	53
Totals:	172	68	22	15	277

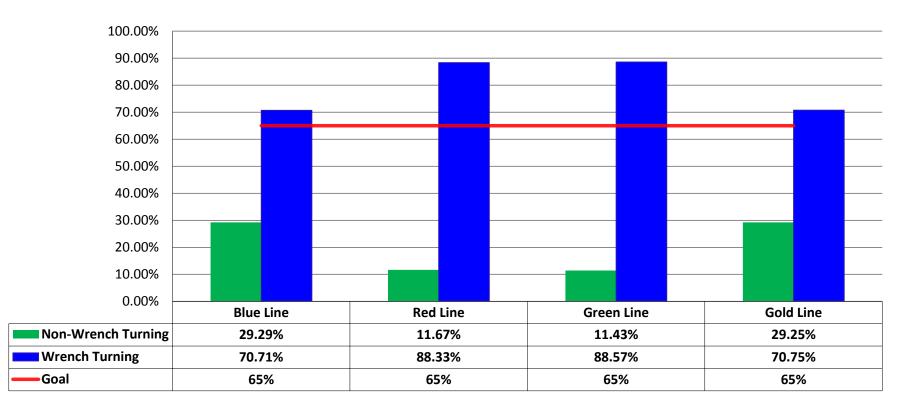
Explanation of PM	Inspection levels	Miles								
Line	Туре	A level	B level	C level	D level					
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000					
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000					
Red/Purple Lines	A650	7,500	22,500	45,000	90,000					
Green Line	P2000	7,500	22,500	45,000	90,000					
Gold Line	P2550	10,000	30,000	60,000	120,000					
Gold/Expo Lines	P3010	10,000	30,000	60,000	120,000					





RFS Leader Wrench Turning November 2016

RFS - Leader Wrench Turning
November 2016

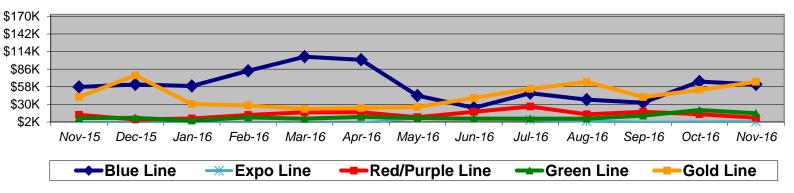


Notes: Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader



Vandalism & Graffiti Report November 2015-2016

	Graffiti Costs													
	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	13-Month Period
Blue Line	\$58K	\$62K	\$59K	\$83K	\$106K	\$101K	\$44K	\$24K	\$48K	\$38K	\$33K	\$66K	\$62K	\$783K
Expo Line	\$K	\$K	\$K	\$K	\$K	\$K	\$9K	\$8K	\$5K	\$3K	\$2K	\$2K	\$2K	\$31K
Red/Purple Line	\$13K	\$6K	\$7K	\$13K	\$17K	\$17K	\$9K	\$18K	\$27K	\$14K	\$18K	\$14K	\$9K	\$184K
Green Line	\$8K	\$9K	\$4K	\$9K	\$7K	\$10K	\$8K	\$7K	\$7K	\$7K	\$12K	\$21K	\$16K	\$126K
Gold Line	\$42K	\$76K	\$30K	\$28K	\$23K	\$24K	\$26K	\$40K	\$54K	\$66K	\$42K	\$53K	\$66K	\$570K
Totals:	\$121K	\$152K	\$101K	\$134K	\$153K	\$153K	\$96K	\$98K	\$141K	\$128K	\$106K	\$157K	\$154K	\$1,694K



November 20°	l6 Vandali	sm a	& Graffiti -	All	Rail	
	Qty		Labor	M	aterials	Totals
Windows Replaced	52	\$	12,222	\$	16,197	\$ 28,419
Vandal Shields Replaced	687	\$	31,406	\$	15,852	\$ 47,258
Seats Cleaned	288	\$	1,271	\$	40	\$ 1,311
Seats Inserts Replaced	363	\$	20,493	\$	4,978	\$ 25,471
Graffiti Removal - Other	1,720	\$	40,370	\$	5,405	\$ 45,775
Repainting Panels	196	\$	6,174	\$	-	\$ 6,174
Totals	3,306	\$	111,936	\$	42,472	\$ 154,408



Vandalism & Graffiti Pictures November 2016

Blue Line

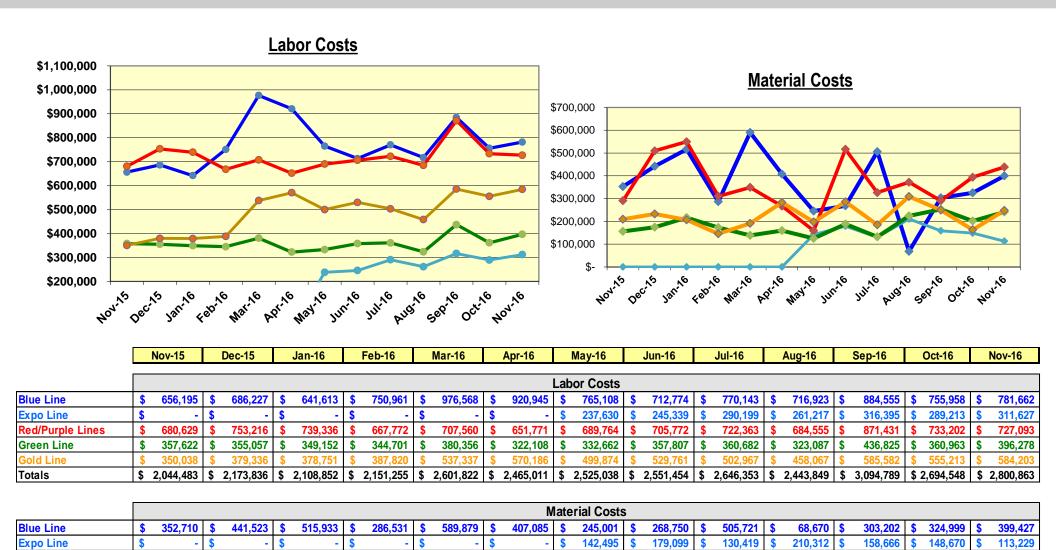


Red Line





Labor and Material Costs November 2015-2016



267,284

159,615

1,117,195

159,258

125,334

869,708

515,978

188,111

1,437,815

326,251

132,247

1,279,791

371,920

224,414

1,184,222

290,597

252,988

1,254,851



290.721

155,914

509,448

174,269

1,357,578

549,576

216,535

1,488,899

310,489

172,625

915,536

349,093

138,673

1,268,996

Red/Purple Lines

Green Line

Gold Line

438,480

241,344

\$ 1,440,322

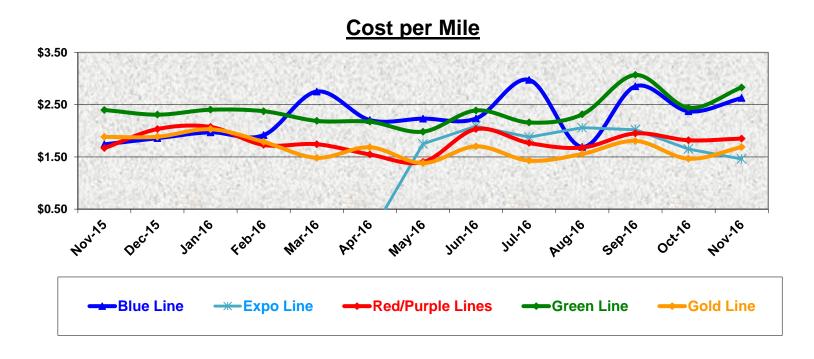
393,507

201,438

\$ 1,231,513

Cost Per Mile November 2015-2016

Cost per mile:	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Average
Blue Line	\$1.74	\$1.86	\$1.97	\$1.92	\$2.75	\$2.21	\$2.23	\$2.24	\$2.97	\$1.69	\$2.85	\$2.37	\$2.63	\$2.26
Expo Line	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1.75	\$2.09	\$1.88	\$2.06	\$2.02	\$1.65	\$1.46	\$1.84
Red/Purple Lines	\$1.67	\$2.03	\$2.07	\$1.73	\$1.74	\$1.55	\$1.40	\$2.03	\$1.77	\$1.68	\$1.95	\$1.82	\$1.85	\$1.79
Green Line	\$2.40	\$2.31	\$2.40	\$2.38	\$2.19	\$2.17	\$1.98	\$2.39	\$2.16	\$2.31	\$3.07	\$2.44	\$2.83	\$2.39
Gold Line	\$1.88	\$1.89	\$2.03	\$1.79	\$1.48	\$1.68	\$1.38	\$1.70	\$1.43	\$1.56	\$1.81	\$1.47	\$1.69	\$1.68





ATU Absences vs. Overtime November 2016

ABSENCE TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
AWP-ABSENT W/O PERMISSION	_			32		WOIII OVIA	32
		-	- 40	40		-	104
BER-BEREAVEMENT	24	-	40		- 40	-	
CTO-COMPENSATORY TIME OFF	137	120	405	96	46	188	992
CUT-EMPLOYEE LEAVES EARLY	1	1	0	2	1	7	11
DSL-DISABILITY LEAVE/LONG	736	-	224	72	-	-	1,032
EFH-EMG. FLOAT HOL.	24		80	8	_	8	120
ETO-EXCUSED TIME OFF	89	32	52	9	-	21	202
FMI-FAM IND INJURY	-	-	136	96	176	-	408
FML-FAMILY CARE LEAVE	608	112	92	128	16	96	1,052
FMS-FAMILY LEAVE SICK	196	56	8	40	8	16	324
HLF-HOLIDAY FLOATING	376	104	384	96	64	248	1,272
HOL-HOLIDAY LEGAL	560	88	520	136	24	272	1,600
II-INDUSTRIAL INJURY	-	_	-	88	_	-	88
IPD-INJURED PARTIAL DAY	4	_	-	-	_	-	4
JUR-JURY DUTY	8	_	-	-	_	-	8
LC1-LABOR CODE 233	144	24	190	36	40	132	566
LTI-OCCPIL/LONGTRM INJ LEAVE	176	-	696	88	_	-	960
OWP-OFF WITH PERMISSION	3	-	-	1	_	-	4
RTO-REQUESTED TIME OFF-NO PAY	8	-	-	-	2	8	18
SCK-SICK PAY	316	143	211	16	16	88	790
SCW-SICK WITHOUT PAY	88	2	8	40	_	8	146
SPN-SCHOOL PARTNER NOT PAID	_	_	-	-	3	6	9
TAR-TARDY	5	0	1	2	_	1	8
VAC-VACATION	938	260	1,356	368	144	516	3,582
VAS-VACATION WHILE SICK	-	_	20	-	_	_	20
*TRAINING	576	48	_	-	_	224	848
Total Absence Hours	5,017	989	4,422	1,393	540	1,839	14,199
**ATU Number of Work Force (active)	105	36	101	43	17	62	364
Full Work Force hours/month	18,197	6,239	17,503	7,452	2,946	10,746	63,081
Absence as a % of Work Force	28%	16%	25%	19%	18%	17%	23%

OVERTIME TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
CTB-COMPENSATORY TIME TO BANK	212	48	104	53	-	179	595
OTP-PREM OVERTIME	4,045	1,319	3,442	1,456	23	1,017	11,302
PHP-PHYSCIAL EXAM OT	4	1	•	ı	ı	I	4
TRO OVERTIME	-	8	-	ı	•	-	8
WLO-Worked Lunch Overtme	134	129	215	88	26	84	674
Total Overtime Hours	4,395	1,503	3,760	1,598	49	1,279	12,583
Overtime as a % of Work Force	24%	24%	21%	21%	2%	12%	20%

^{*}Training hours captured by Instruction Department are added to Absences Report.

^{**}ATU Employee Numbers from ATU Manpower Status Report (last week of the month)



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

RFS Instruction Department Activities November 2016

LRV Training classes completed during the month of November 2016

Description	Course Hours	Student Count	Training Hours
Blue Line Training - (P865/2020 & P2000 LRVs):			
RFS SIEMENS 2000 FRICTION BRAKES	48	5	240
RFS KINKISHARYO INTRO & MAINLINE RESPONSE	16	21	336
	Total Blue Line Tra	576	
Light Rail Training [In Monrovia (P2550 LRVs) JAC]:			
RFS ANSALDOBREDA 2550 TRAMMING (PROMEC)	8	3	24
RFS ANSALDOBREDA 2550 PROPULSION	40	5	200
	Total Light Rail Tra	224	
Expo Line Training - (P865/2020, P2000, & P3010 LRVs): RFS KINKISHARYO INTRO & MAINLINE RESPONSE	16 Total Expo Line Tra	3 sining (Hours):	48 48
Gold Line Training (P2550 LRVs): No vehicle training ths month			0
	Total Gold Line Tra	ining (Hours):	0
Green Line Training (P2000 LRVs):			
No vehicle training ths month			0
	Total Green Line Tra	ining (Hours):	0
Total RFS Instruction for the mo	<u>848</u>		

BLUE

83.8%

51.2%

0.5%

15.2

EXPO

33.1%

45.2%

18.1%

3.7

GOLD

76.8%

N/A

23.9%

7.0

Core Vehicle Training Completed:

Siemens P2000 training complete:

KinkiSharyo P3010 training complete:

Percentage of core vehicle training complete:

Average Specialist Rail Experience Level in Years:

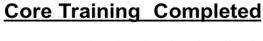
70.0% -	*
60.0% -	
50.0% -	<u></u>
40.0% -	
30.0%	

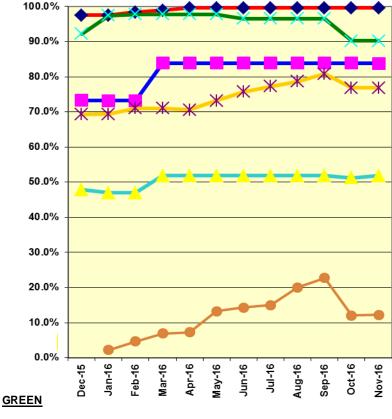
90.2%

N/A

N/A

10.2





Breda A650	Nippon Sharyo P865/2020
Siemens GE/ATP P2000	Siemens Base P2000
—∗ AnsaldoBreda P2550	KinkiSharyo P3010



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

RFS Instruction Department Activities November 2016

HRV & Other Training classes completed during the month of November 2016

<u>Description</u>	Course Hours	Student Count	Training Hours	
Red Line Training - Breda A650 HRV: NO VEHICLE TRAINING THIS MONTH	0	0	0	
Total Red Line Training Hours			0	
Other Instruction Activities	<u>Curriculum</u>	<u>Administrative</u>	Technical Support	<u>Total</u>
A650 Curriculum, Administrative, and Technical Support	40	16	64	120
P865/P2020 Curriculum, Administrative, and Technical Support	8	0	8	16
P2000 Curriculum, Administrative, and Technical Support	16	8	24	48
P2550 Curriculum, Administrative, and Technical Support	120	24	56	200
P3010 Curriculum, Administrative, and Technical Support	240	24	0	264
Time Off (HOL, TOV, & SCK)				400
Total Other Instruction Activities				1048

Core Vehicle Training Completed:	<u>RED</u>	JAC Core	<u>JAC</u>
Percentage of Core Vehicle Training Complete:	99.6%	(P2000)	22.10%
		(P2550)	19.00%
Average Specialist Rail Experience Level in Years:	12.8		0.4

