

Rail Fleet Services Monthly Report April 2017



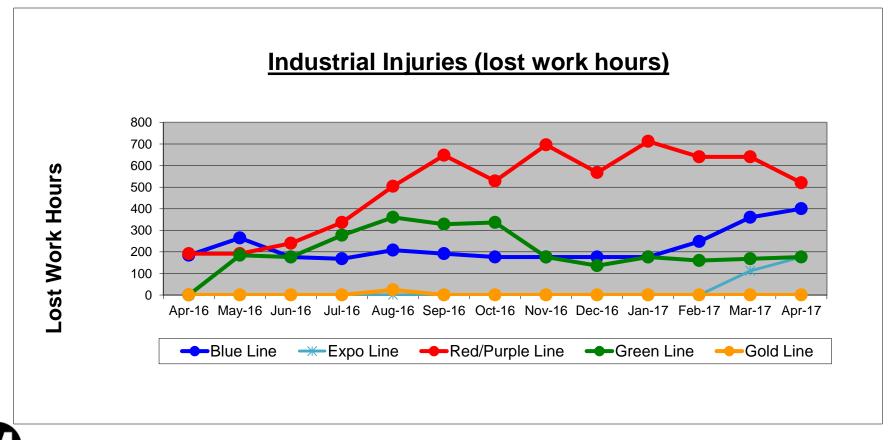
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Industrial Injuries – Lost Work Hours April 2016-2017

	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	13-Month Period
Blue Line	184	264	176	168	208	192	176	176	176	176	248	360	400	2,904
Expo Line	0	0	0	0	0	0	0	0	0	0	0	112	176	288
Red/Purple Line	192	192	240	336	504	648	528	696	568	712	640	640	520	6,416
Green Line	0	184	176	277	360	328	336	176	136	176	160	168	176	2,653
Gold Line	0	0	0	0	24	0	0	0	0	0	0	0	0	24
Totals	376	640	592	781	1,096	1,168	1,040	1,048	880	1,064	1,048	1,280	1,272	12,285



Rail Vehicle Accidents & Major Incidents April 2016-2017

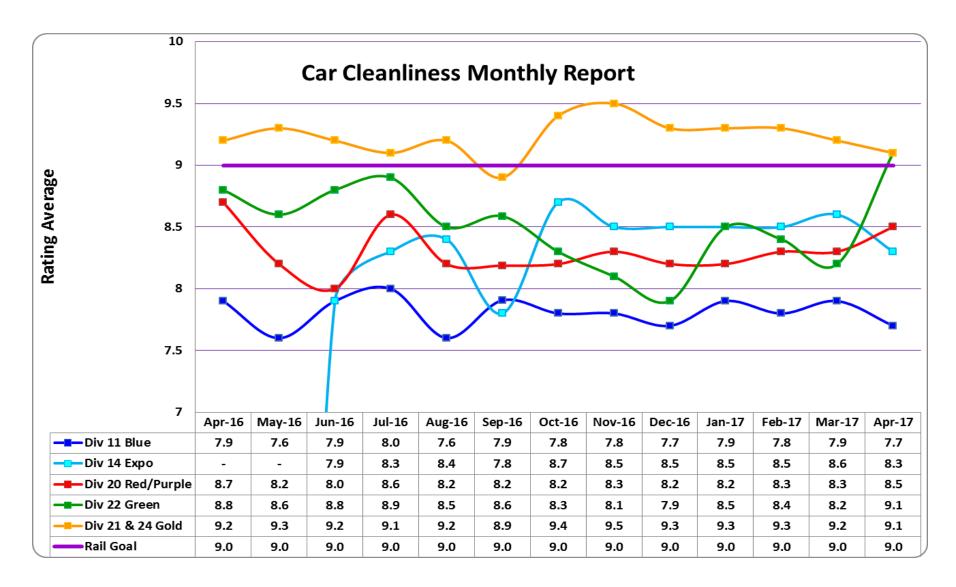
Repair Costs	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	13-Month Period
Blue Line	\$1,232	\$513	\$0	\$0	\$3,211	\$665	\$28,089	\$0	\$2,352	\$170,311	\$0	\$1,427	\$2,586	\$210,386
Expo Line	\$0	\$0	\$0	\$576	\$0	\$12,921	\$9,468	\$0	\$381	\$763	\$1,930	\$0	\$1,420	\$27,459
Red/Purple Line	\$1,284	\$0	\$1,932	\$840	\$552	\$0	\$0	\$0	\$0	\$0	\$1,032	\$0	\$0	\$5,640
Green Line	\$0	\$0	\$0	\$0	\$51,535	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$334	\$51,869
Gold Line	\$4,646	\$0	\$19,451	\$564	\$0	\$0	\$5,694	\$0	\$0	\$3,789	\$15,829	\$1,871	\$191	\$52,035
Totals	\$7,162	\$513	\$21,383	\$1,980	\$55,298	\$13,586	\$43,251	\$0	\$2,733	\$174,863	\$18,791	\$3,298	\$4,531	\$347,389

		Rai	Vehicle Accident Costs - April 2017		
Date	Incident #	Problem Code	Incident Description	Repa	air Cost
Metro Blu	e Line				
4/2/17	2851710	Train vs. Vehicle	A 10-73 was reported at 19th St. and Long Beach Blvd., NB.	\$	-
4/21/17	2858462	Train vs. Vehicle	A 10-73 was reported at 119th St. Grade Crossing, Track 2, SB.	\$	2,586
			Metro Blue Line Total	\$	2,586
Metro Exp	o Line				
4/10/17	2854378	Train vs. Vehicle	A 10-73 was reported at Crenshaw, Track 4, SB.	\$	1,420
			Metro Expo Line Total	\$	1,420
Metro Gol	d Line				
4/26/17	2860057	Train vs. Object	A 10-71 was reported at Downtown Azusa station, Track 2, SB. Crew door key cover made contact with platform.	\$	-
4/26/17	2860062	Train vs. Object	A 10-71 was reported at Little Tokyo Station, Track 1, NB. Bicycle made contact with train consist on platform.	\$	191
			Metro Gold Line Total	\$	191
Metro Gre	en Line				
4/19/17	2857566	Train vs. Object	A 10-71 was reported.	\$	334
			Metro Green Line Total	\$	334
			Grand Total	\$	4,531
1	0-71 = Train vs	s. Object/ 10-72 = Train vs. F	Pedestrian/ 10-73 = Train vs. Vehicle/ 10-74 = Train vs. MTA Vehicle/ 10-75 = Derailm	ent	



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 April 2016-2017





Service Delivery April 2017

Blue Line Fleet Size: 71

 Pull Out
 Vehicles Required
 Available
 % Up (Down)

 Weekday:
 57
 55
 96%

 Weekend:
 26
 46
 177%

Average

Monthly Mileage: 430,560

Expo Line Fleet Size: 71

 Pull Out
 Vehicles Required
 Available
 % Up (Down)

 Weekday:
 47
 50
 106%

 Weekend:
 30
 43
 143%

Monthly Mileage: 284,914

Red/Purple Line Fleet Size: 104

 Pull Out
 Vehicles Required
 Available Available
 % Up (Down)

 Weekday:
 64
 76
 119%

 Weekend:
 40
 66
 165%

Monthly Mileage: 604,438

Green Line Fleet Size: 29

 Pull Out
 Vehicles Required
 Available
 % Up (Down)

 Weekday:
 22
 22
 100%

 Weekend:
 14
 17
 121%

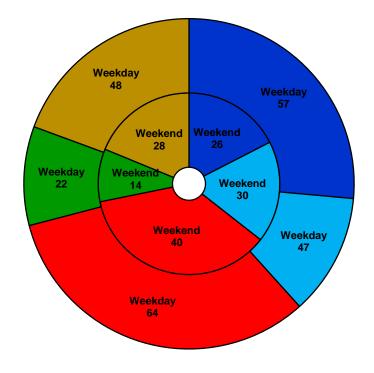
Monthly Mileage: 227,312

Gold Line Fleet Size: 65

		Average	
Pull Out	Vehicles Required	<u>Available</u>	% Up (Down)
Weekday (Div 21):	10	11	110%
Weekday (Div 24):	38	42	111%
Weekend (Div 24):	28	39	139%

Monthly Mileage: 555,008

* Gold Line monthly mileage includes Division 21 and 24.



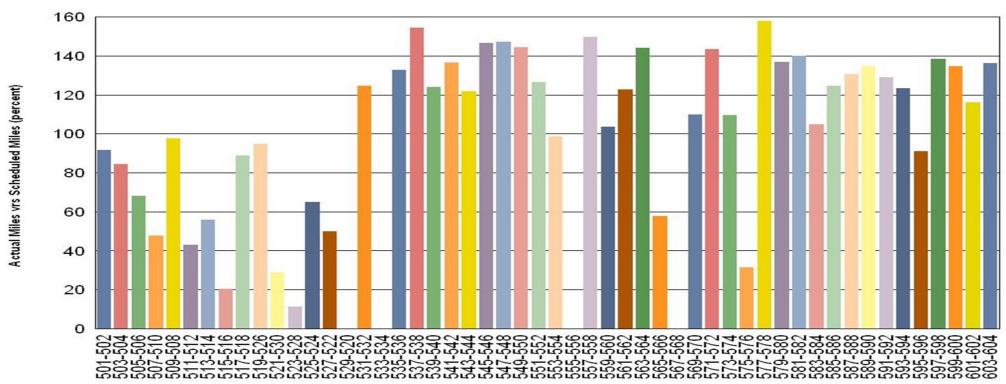






Vehicle Utilization April 2017

Metro Red/Purple Line (104 Cars)



Red/Purple Line:

The following cars were out of service due to:

Car # 515-516 - Propulsion Issue

Car # 521-530 - ATP Fault

Car # 523-528 - Propulsion Fault

Car # 529-520 - Pending for Parts: Arc Chute and 160A Fuse

Car # 533-534 – Interior Renovation

Car # 555-556 - Propulsion Issue - GTO Shoot Through

Car # 567-568 - Propulsion Issue - GTO Shoot Through

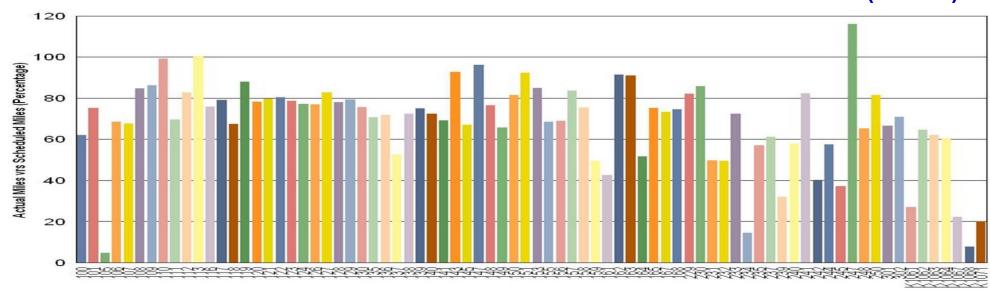
Car # 575-576 – Propulsion Issue – GTO Shoot Through



Vehicle Utilization April 2017

Metro Blue Line (71 Cars)

Metro Expo Line (71 Cars)



180

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

Car # 105 - Decommissioned from Service

Car # 234 – Exterior Paint Restoration

Car # 239 - Accident 10-73 on 4/21/2017

Car # 245 – Inverter Failure/Exterior Paint Restoration

Car # K1061 - Transferred to Blue Line 4/29/2017

Car # K1067 – Transferred to Blue Line 4/29/2017

Car # K1068 - Transferred to Blue Line 4/29/2017

Car # K1071 - Transferred to Blue Line 4/29/2017

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

Car # 133 - Car-body work: Repaired and Repainted

Car # K1021 - Horn/Gong Issue

Car # K1024 - 60K Inspection

Car # K1060 - Accident: B End Coupler Damaged

Vehicle Utilization April 2017

Green Line:

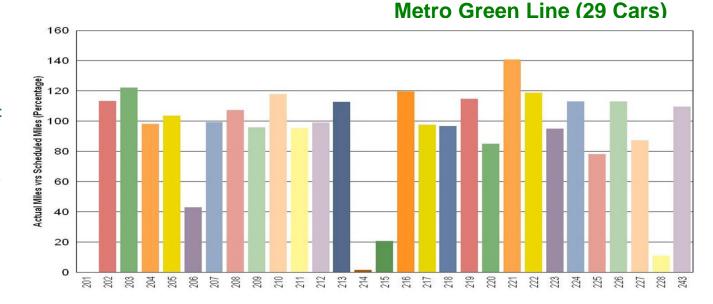
The following cars were out of service due to:

Car # 201 - Aux Inverter (none in stock)

Car # 214 – EMI Fault

Car # 215 – Aux Inverter (none in stock)

Car # 228 – EMI/ Exterior & Interior Paint & Body Rehab



Metro Gold Line (65 Cars)

Gold Line:

The following cars were out of service due to:

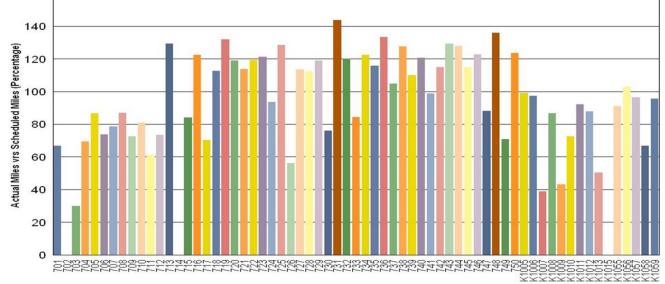
Car # 702 – Accident Repair

Car # 703 – Overheated HVAC Connector & 120K PM Inspection

Car # 714 - Damaged Connector (no parts)

Car # K1007 – 60K PM Inspection & Cab Window Repair

Car # K1015 - Door Problem



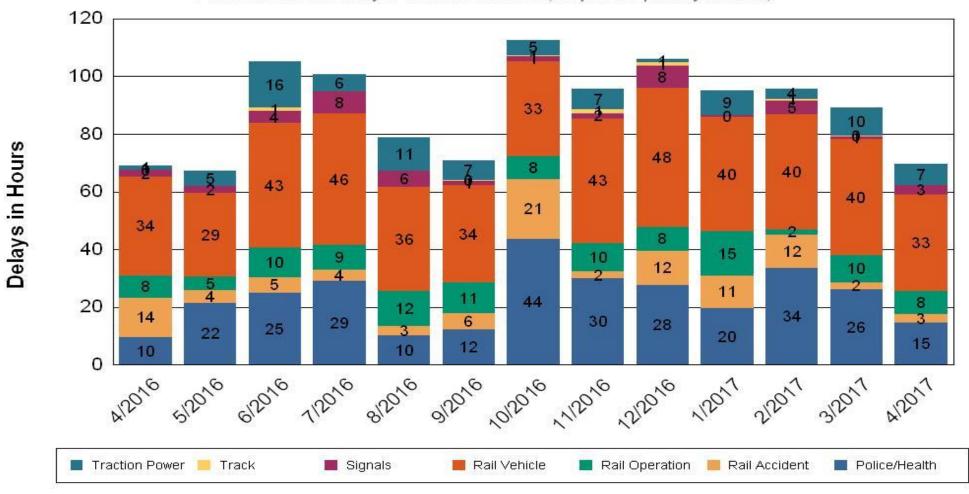


160

All Train Delays (Hours) April 2016-2017

All Train Delays

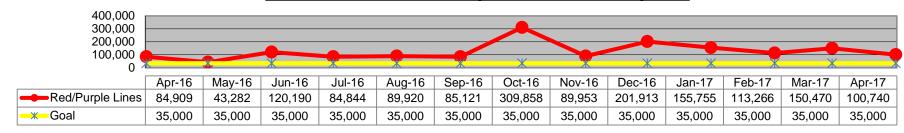
Totals Include the delay to all trains involved (not just the primary incident)



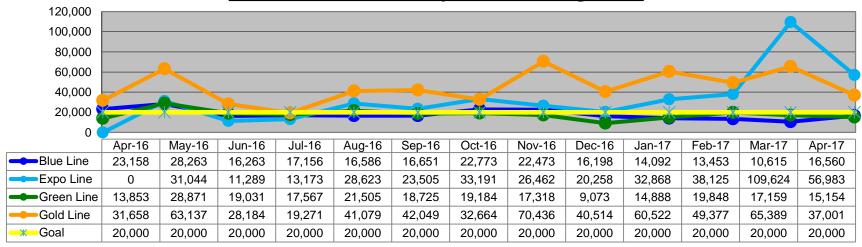


Mean Miles Between Major Failures (MMBF) April 2016-2017

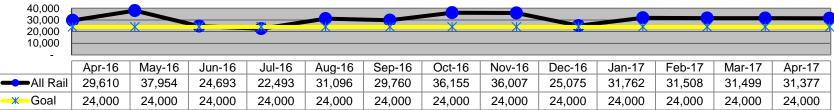
Mean Miles Between Major Failures - Heavy Rail



Mean Miles Between Major Failures - Light Rail



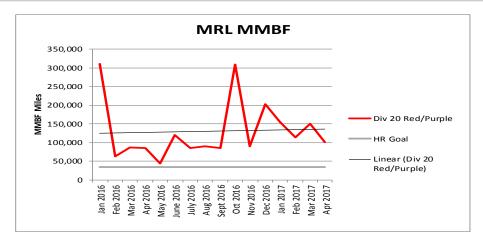
Mean Miles Between Major Failures (all)

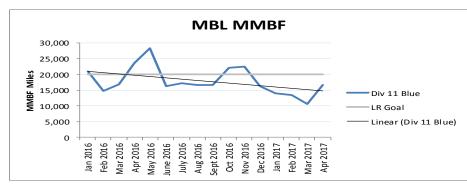


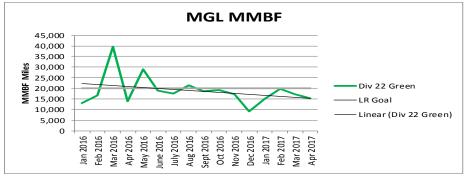


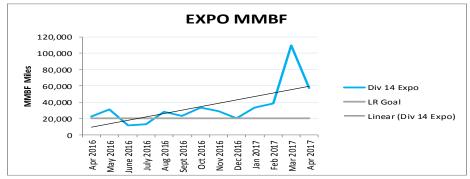
MMBF by Division April 2016-2017

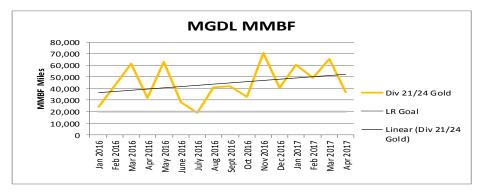
	Div 11	Div 20	Div 22	Div 21/24	Div 14		
Month	Blue	Red/Purple	Green	Gold	Expo	LR Goal	HR Goal
Jan 2016	20,976	310,794	13,075	24,371	=	20,000	35,000
Feb 2016	14,628	62,876	16,751	42,632	=	20,000	35,000
Mar 2016	16,739	86,604	39,513	61,444	-	20,000	35,000
Apr 2016	23,513	84,909	13,853	31,658	22,195	20,000	35,000
May 2016	28,263	43,282	28,871	63,137	31,044	20,000	35,000
June 2016	16,263	120,190	19,031	28,184	11,289	20,000	35,000
July 2016	17,156	84,844	17,567	19,271	13,173	20,000	35,000
Aug 2016	16,586	89,920	21,505	41,079	28,623	20,000	35,000
Sept 2016	16,651	85,121	18,725	42,049	23,505	20,000	35,000
Oct 2016	22,027	309,858	19,184	32,664	33,606	20,000	35,000
Nov 2016	22,473	89,953	17,318	70,436	29,108	20,000	35,000
Dec 2016	16,198	201,913	9,073	40,514	20,258	20,000	35,000
Jan 2017	13,950	155,755	14,888	60,522	33,309	20,000	35,000
Feb 2017	13,453	113,266	19,848	49,377	38,125	20,000	35,000
Mar 2017	10,615	150,470	17,159	65,389	109,624	20,000	35,000
Apr 2017	16,560	100,740	15,154	37,001	56,983	20,000	35,000





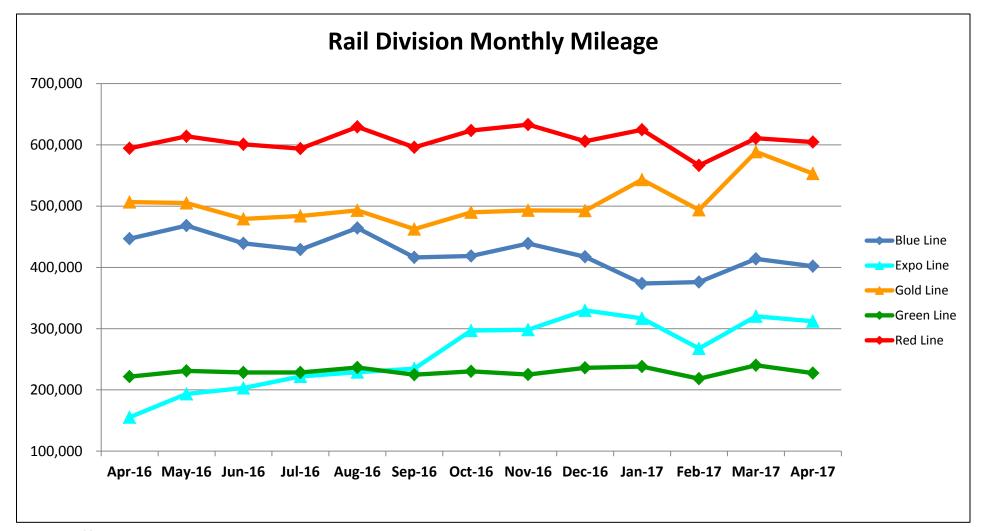








Mileage Between Data Range (by month) April 2016-2017

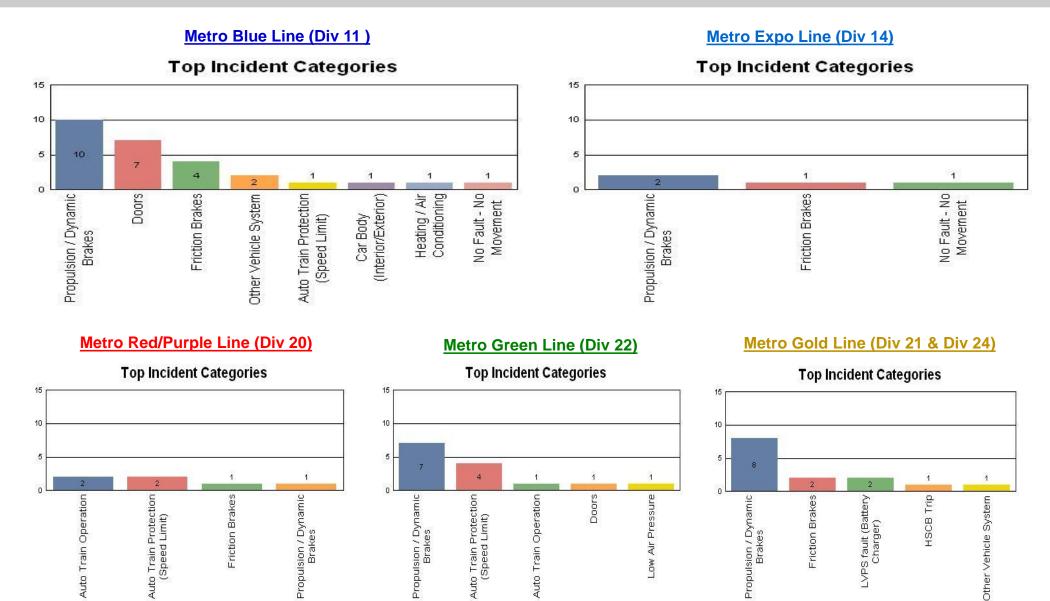


Notes:

- 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.



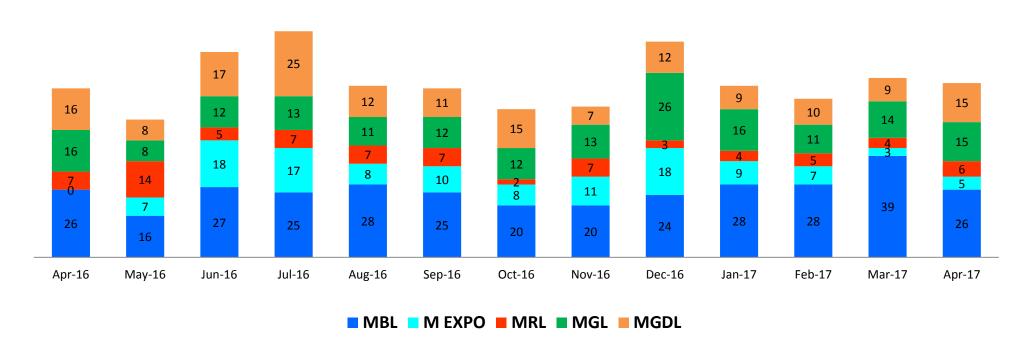
Top Incident Categories April 2017





Major Incidents April 2016-2017

Numbers of Major System Failures (by Line)



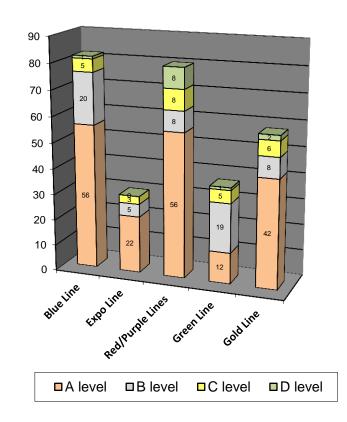


Preventive Maintenance Compliance April 2016-2017

PM Compliance	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17
Blue Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Expo Line	0%	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%	100%	100%
Green Line	100%	93%	100%	100%	100%	97%	100%	100%	100%	100%	100%	100%	100%
Gold Line	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Number of Pre	ventive Ma	intenance	Inspection	s - April 20	17
Line	A level	B level	C level	D level	Totals
Blue Line	56	20	5	1	82
Expo Line	22	5	3	0	30
Red/Purple Lines	56	8	8	8	80
Green Line	12	19	5	1	37
Gold Line	42	8	6	2	58
Totals:	188	60	27	12	287

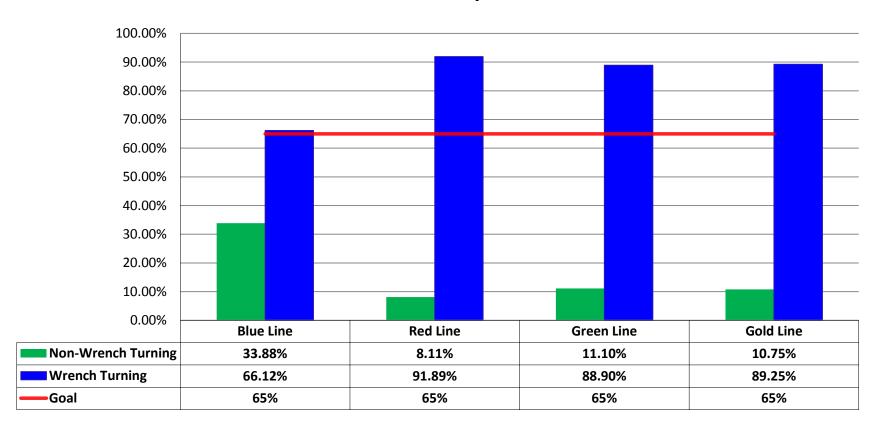
Explanation of PM	Inspection levels		Mile	30,000 60,000								
Line	Туре	A level	B level	C level	D level							
Blue/Expo Lines	P865/P2020	5,000	15,000	30,000	60,000							
Blue/Expo Lines	P2000	7,500	22,500	45,000	90,000							
Red/Purple Lines	A650	7,500	22,500	45,000	90,000							
Green Line	P2000	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 April 2017

RFS - Leader Wrench Turning April 2017

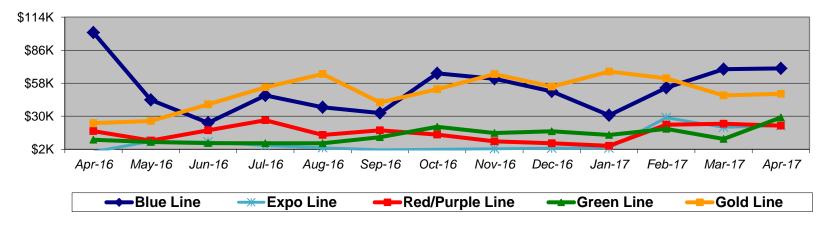


Notes: Labor hours contributed by Maint Specialist Leader, Rail Body/Paint Repair Leader, and Maint Specialist Temporary Leader



Vandalism & Graffiti Report April 2016-2017

						Graffi	ti Costs							
	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	13-Month Period
Blue Line	\$101K	\$44K	\$24K	\$48K	\$38K	\$33K	\$66K	\$62K	\$51K	\$31K	\$54K	\$70K	\$71K	\$692K
Expo Line	\$K	\$9K	\$8K	\$5K	\$3K	\$2K	\$2K	\$2K	\$3K	\$3K	\$29K	\$21K	\$22K	\$108K
Red/Purple Line	\$17K	\$9K	\$18K	\$27K	\$14K	\$18K	\$14K	\$9K	\$7K	\$5K	\$23K	\$24K	\$22K	\$207K
Green Line	\$10K	\$8K	\$7K	\$7K	\$7K	\$12K	\$21K	\$16K	\$17K	\$14K	\$19K	\$11K	\$29K	\$179K
Gold Line	\$24K	\$26K	\$40K	\$54K	\$66K	\$42K	\$53K	\$66K	\$55K	\$68K	\$62K	\$48K	\$49K	\$652K
Totals:	\$153K	\$96K	\$98K	\$141K	\$128K	\$106K	\$157K	\$154K	\$133K	\$121K	\$187K	\$172K	\$193K	\$1,838K



April 2017	' Vandalis	sm	& Graffiti	- All	Rail	
	Qty		Labor	M	aterials	Totals
Windows Replaced	199	\$	38,691	\$	46,498	\$ 85,189
Vandal Shields Replaced	643	\$	23,761	\$	13,052	\$ 36,813
Seats Cleaned	337	\$	7,567	\$	40	\$ 7,607
Seats Inserts Replaced	398	\$	17,010	\$	8,256	\$ 25,266
Graffiti Removal - Other	1,605	\$	28,098	\$	4,268	\$ 32,366
Repainting Panels	167	\$	5,260	\$	-	\$ 5,260
Totals	3,349	\$	120,387	\$	72,114	\$ 192,501



Vandalism & Graffiti Pictures April 2017

Blue Line



Gold Line

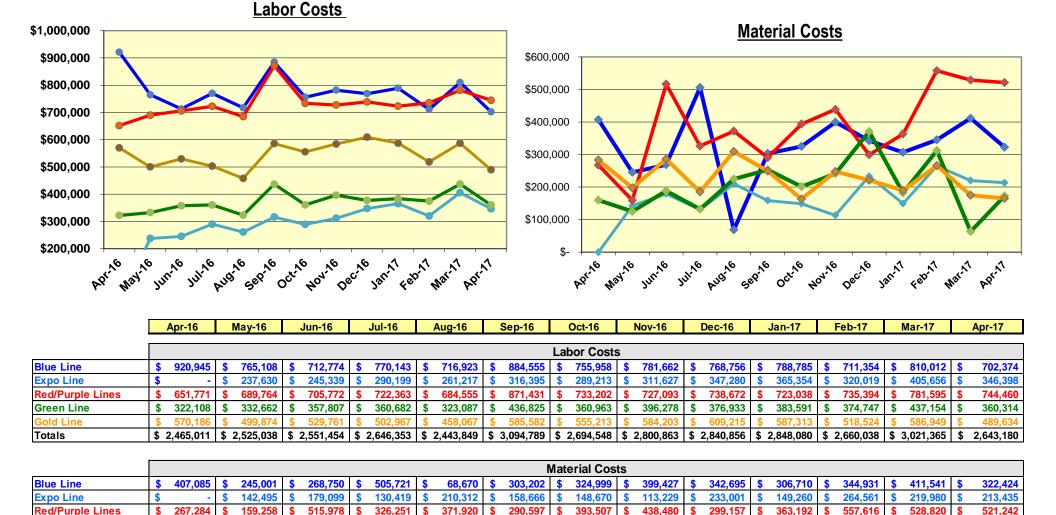


Expo Line





Labor and Material Costs April 2016-2017



252,988

201,438

869,708 | \$ 1,437,815 | \$ 1,279,791 | \$ 1,184,222 | \$ 1,254,851 | \$ 1,231,513 | \$ 1,440,322 | \$ 1,466,779 | \$ 1,191,200 | \$ 1,745,150 | \$ 1,398,760 | \$

241,344

247.842

370,755

182,518

312,113

63,371

175,047



159,615

\$ 1,117,195 | \$

125,334

188,111

132,247

224,414

Green Line

Gold Line

Totals

172,269

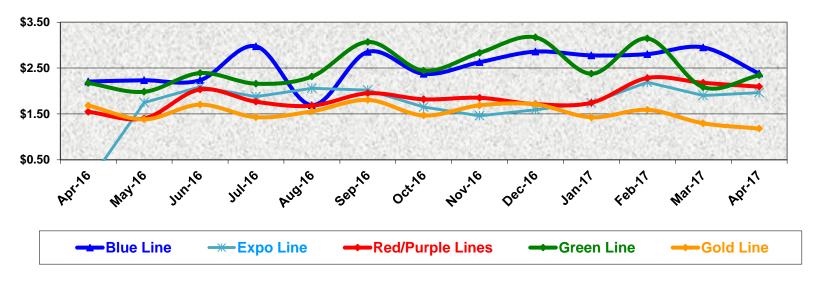
165,012

1,394,383

Cost Per Mile April 2016-2017

Cost per mile:	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	Average
Blue Line	\$2.21	\$2.23	\$2.24	\$2.97	\$1.69	\$2.85	\$2.37	\$2.63	\$2.86	\$2.78	\$2.80	\$2.95	\$2.38	\$2.54
Expo Line	\$0.00	\$1.75	\$2.09	\$1.88	\$2.06	\$2.02	\$1.65	\$1.46	\$1.59	\$1.74	\$2.19	\$1.90	\$1.96	\$1.86
Red/Purple Lines	\$1.55	\$1.40	\$2.03	\$1.77	\$1.68	\$1.95	\$1.82	\$1.85	\$1.71	\$1.74	\$2.28	\$2.18	\$2.09	\$1.85
Green Line	\$2.17	\$1.98	\$2.39	\$2.16	\$2.31	\$3.07	\$2.44	\$2.83	\$3.17	\$2.38	\$3.15	\$2.08	\$2.34	\$2.50
Gold Line	\$1.68	\$1.38	\$1.70	\$1.43	\$1.56	\$1.81	\$1.47	\$1.69	\$1.71	\$1.43	\$1.59	\$1.29	\$1.18	\$1.53

Cost per Mile





ATU Absences vs. Overtime April 2017

ABSENCE TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
AWP-ABSENT W/O PERMISSION	-	8	-	-	-	-	8
CTO-COMPENSATORY TIME OFF	300	159	437	252	59	288	1,495
CUT-EMPLOYEE LEAVES EARLY	0	1	1	1	-	1	3
DSL-DISABILITY LEAVE/LONG	496	-	-	344	-	-	840
EFH-EMG. FLOAT HOL.	-	16	64	8	-	8	96
ETO-EXCUSED TIME OFF	80	55	45	11	1	24	217
FMI-FAM IND INJURY	_	-	-	168	-	176	344
FML-FAMILY CARE LEAVE	32	64	241	49	8	16	411
FMS-FAMILY LEAVE SICK	8	-	51	49	8	-	116
HLF-HOLIDAY FLOATING	200	104	352	104	16	204	980
II-INDUSTRIAL INJURY	120	176	-	176	-	-	472
IS-INVESTIGATIVE SUSPENSION	93	-	-	1	-	-	93
JUR-JURY DUTY	16	-	-	-	8	-	24
LC1-LABOR CODE 233	360	104	382	200	83	313	1,442
LTI-OCCPIL/LONGTRM INJ LEAVE	280	-	520	-	-	-	800
MLN-MILITARY ABSENCE-UNPAID	_	-	160	-	-	-	160
OWP-OFF WITH PERMISSION	-	6	8	-	-	-	14
RTO-REQUESTED TIME OFF-NO PAY	80	8	17	8	1	-	114
SCK-SICK PAY	228	48	240	136	64	160	876
SCW-SICK WITHOUT PAY	_	8	104	164	1	65	342
SPN-SCHOOL PARTNER NOT PAID	_	-	-	-	-	8	8
TAR-TARDY	2	0	2	2	1	3	11
UNP-UNION BUS PAID	_	-	16	-	-	-	16
VAC-VACATION	1,016	390	932	526	168	620	3,652
*TRAINING	-	-	32	224	240	240	736
Total Absence Hours	3,312	1,147	3,605	2,421	658	2,124	13,267
**ATU Number of Work Force (active)	103	42	105	44	19	59	372
Full Work Force hours/month	17,850	7,279	18,197	7,625	3,293	10,226	64,468
Absence as a % of Work Force	19%	16%	20%	32%	20%	21%	21%

OVERTIME TYPE and HOURS	3941 Blue	3947 Expo	3942 Red	3943 Green	3944 Gold	3948 Monrovia	Total
CTB-COMPENSATORY TIME TO BANK	46	78	117	70	4	24	339
OTP-PREM OVERTIME	4,167	1,785	4,775	2,220	58	1,059	14,065
WLO-Worked Lunch Overtme	151	158	226	92	20	66	712
Total Overtime Hours	4,364	2,021	5,118	2,382	82	1,149	15,116
Overtime as a % of Work Force	24%	28%	28%	31%	2%	11%	23%

^{*}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 April 2017

1,616

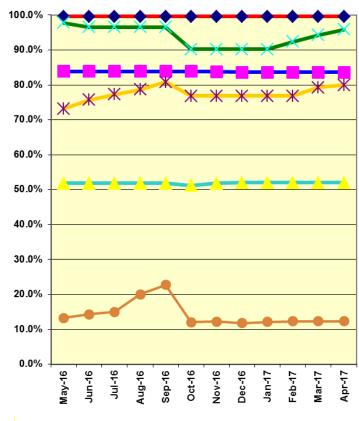
LRV Training classes completed during the month of April 2017

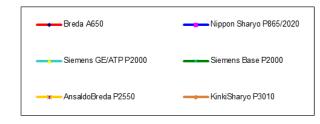
Description	Course Hours	Student Count	Training Hours
Blue Line Training - (P865/2020 & P2000 LRVs):			
No vehicle training ths month			0
	Total Blue Line Tra	aining (Hours):	0
Light Rail Training [In Monrovia (P2550 & P3010 LRVs)]:			
RFS ANSALDOBREDA 2550 APS\LVPS\BATTERY	24	3	72
RFS ANSALDOBREDA 2550 PROPULSION	56	3	168
	Total Light Rail Tra	aining (Hours):	240
Expo Line Training - (P865/2020, P2000, & P3010 LRVs):			
No vehicle training the month			0
To romote admining the month.	Total Expo Line Tra	aining (Hours):	0
Gold Line Training (P2550 LRVs):			
RFS ANSALDOBREDA 2550 APS\LVPS\BATTERY	24	3	72
RFS ANSALDOBREDA 2550 PROPULSION	56	3	168
	Total Gold Line Tra	aining (Hours):	240
Green Line Training (P2000 LRVs):			
RFS SIEMENS 2000 PANTOGRAPH	8	2	16
RFS SIEMENS 2000 HVAC	64	2	128
RFS SIEMENS 2000 DOOR CONTROLS	40	2	80
	Total Green Line Tra	aining (Hours):	224

Core Vehicle Training Completed:	BLUE	<u>EXPO</u>	GOLD	GREEN
Percentage of core vehicle training complete:	83.6%	21.3%	80.0%	95.9%
Siemens P2000 training complete:	52.0%	39.8%	N/A	N/A
KinkiSharyo P3010 training complete:	0.5%	18.1%	23.9%	N/A
Average Specialist Rail Experience Level in Years:	15.5	3.6	7.4	10.5

Total RFS Instruction for the month of April 2017 (Hours):

Core Training Completed







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

RFS Instruction Department Activities April 2017

HRV & Other Training classes completed during the month of April 2017

Description	Course Hours	Student Count	<u>Training Hours</u>	
Red Line Training - Breda A650 HRV:				
NO VEHICLE TRAINING THIS MONTH	8	4	32	
Total Red Line Training Hours	3		32	
JAC Training (P2000 & P2550 LRVs)				
RFS BREDA 650 HVAC	40	10	400	
RFS SIEMENS 2000 GE HARM ON ATP	48	10	480	
Total Expo Line Training Hours	3		880	
Other Instruction Activities	Curriculum	Administrative	Technical Support	Total
A650 Curriculum, Administrative, and Technical Support	32	20	32	84
P865/P2020 Curriculum, Administrative, and Technical Support	0	8	16	24
Doods O All	40	40		400

A650 Curriculum, Administrative, and Technical Support	32	20	32	84	
P865/P2020 Curriculum, Administrative, and Technical Support	0	8	16	24	
P2000 Curriculum, Administrative, and Technical Support	40	40	56	136	
P2550 Curriculum, Administrative, and Technical Support	16	32	24	72	
P3010 Curriculum, Administrative, and Technical Support	200	32	0	232	
International Rodeo Preparation				32	
TLC Rail Consortium				41	
Time Off (HOL, TOV, & SCK)				216	
Total Other Instruction Activities				837	
					_

Core Vehicle Training Completed:	<u>RED</u>	<u>JAC</u>
Percentage of Core Vehicle Training Complete:	99.6%	97.0%
Average Specialist Rail Experience Level in Years:	12.9	0.8

