

## Rail Fleet Services Monthly Report December 2011

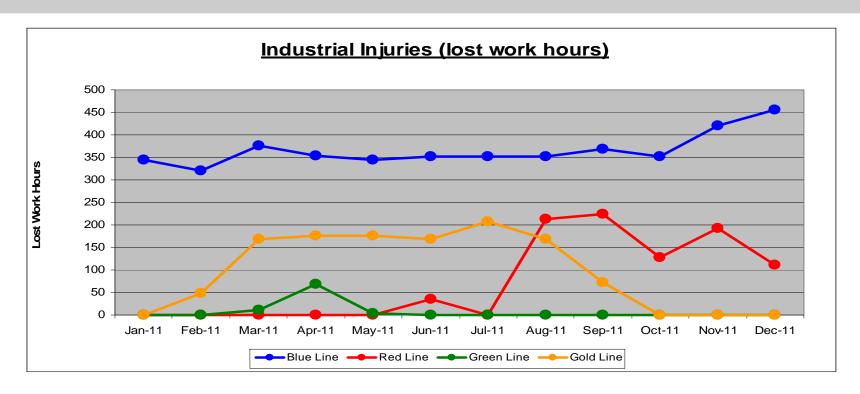


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## Industrial Injuries – Lost Work Hours December 2011



|              | Emplo    | oyees  | De                   | December 2011 Lost Work Hours |                              |            |  |  |  |  |
|--------------|----------|--------|----------------------|-------------------------------|------------------------------|------------|--|--|--|--|
|              | Assigned | Active | Service<br>Attendant | Maint.<br>Specialist          | Body<br>Repairer<br>/Painter | Total Hrs. |  |  |  |  |
| Blue Line    | 112      | 107    | 176                  | 104                           | 176                          | 456        |  |  |  |  |
| Red Line     | 104      | 94     | 112                  | 0                             | 0                            | 112        |  |  |  |  |
| Green Line   | 49       | 46     | 0                    | 0                             | 0                            | 0          |  |  |  |  |
| Gold Line    | 52       | 50     | 0                    | 0                             | 0                            | 0          |  |  |  |  |
| Eng/QA/Admin | 31       | 31     |                      |                               |                              | 0          |  |  |  |  |
| Totals       | 348      | 328    | 288                  | 104                           | 176                          | 568        |  |  |  |  |



## Rail Vehicle Accidents & Major Incidents December 2011

| Repair Costs | Jan-11  | Feb-11  | Mar-11  | Apr-11   | May-11  | Jun-11  | Jul-11  | Aug-11  | Sep-11  | Oct-11  | Nov-11   | Dec-11  | Totals   |
|--------------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|----------|---------|----------|
| Blue Line    | \$961   | \$2,114 | \$684   | \$26,990 | \$4,844 | \$189   | \$0     | \$395   | \$7,337 | \$888   | \$16,188 | \$1,199 | \$61,789 |
| Red Line     | \$0     | \$0     | \$0     | \$0      | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0     | \$0      |
| Green Line   | \$0     | \$0     | \$0     | \$0      | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0     | \$0      |
| Gold Line    | \$239   | \$13    | \$4,031 | \$0      | \$0     | \$5,458 | \$3,763 | \$2,567 | \$0     | \$320   | \$0      | \$0     | \$16,391 |
| Totals       | \$1,200 | \$2,127 | \$4,715 | \$26,990 | \$4,844 | \$5,647 | \$3,763 | \$2,962 | \$7,337 | \$1,208 | \$16,188 | \$1,199 | \$78,180 |

| Rail Vehicle Accident Costs - December 2011 |                   |                             |   |            |  |  |  |  |  |  |  |
|---|-------------------|-----------------------------|---|------------|--|--|--|--|--|--|--|
| Metro Blue                                  | Main Line         |                             |   |            |  |  |  |  |  |  |  |
| Date  | Incident #        | Problem code                | Incident Description  | Cost       |  |  |  |  |  |  |  |
| 12/19/2011                                  | 2116529           | Train vs. Vehicle           | 10-73 at Long Beach and 16th Street northbound on Track 1, Train 7, T-208, 121-148-140.     | \$849.00   |  |  |  |  |  |  |  |
| 12/26/2011                                  | 2119177           | Train vs. Pedestrian        | 10-72 at Alondra grade crossing northbound, T-159, Train 11, Track 1.                       | \$350.00   |  |  |  |  |  |  |  |
| 12/26/2011                                  | 2119208           | Train vs. Pedestrian        | 10-72 at Blue Line Yard. Hazardous material in blowdown area for car 109A (M-522).          | \$0.00     |  |  |  |  |  |  |  |
|   |                   |                             | GRAND TOTAL   | \$1,199.00 |  |  |  |  |  |  |  |
| (10   | )-71) = Train vs. | Object, (10-72) = Train vs. | Pedestrian, (10-73) = Train vs. Vehicle (10-74) = Train vs. MTA Vehicle, (10-75) = Derailmo | ent        |  |  |  |  |  |  |  |



## Service Delivery December 2011

#### Blue Line - Fleet Size 69 cars

|          | <u>Vehicles</u> | <u>Average</u>   | <u>% Up</u> |
|----------|-----------------|------------------|-------------|
| Pull Out | <b>Required</b> | <u>Available</u> | (Down)      |
| Weekday: | 60              | 61               | 101%        |
| Weekend: | 36              | 41               | 115%        |

Late Pullouts: 0 \*

Monthly Mileage: 504,686 miles

#### Expo Line - Fleet Size 21 cars

Expo Revenue Operations Date (ROD) to be

determined.

#### Red Line - Fleet Size 104 cars

|          | <u>Vehicles</u> | <u>Average</u>   | <u>% Up</u> |
|----------|-----------------|------------------|-------------|
| Pull Out | <b>Required</b> | <u>Available</u> | (Down)      |
| Weekday: | 70              | 80               | 114%        |
| Weekend: | 48              | 61               | 126%        |

Late Pullouts: 0 \*

Monthly Mileage: 563,262 miles

#### Green Line - Fleet Size 29 cars

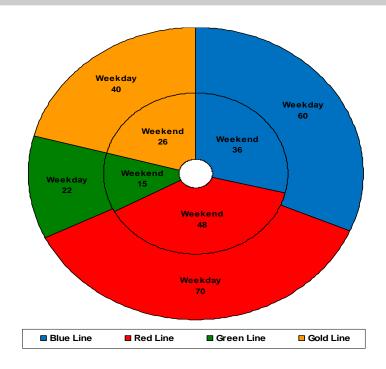
|          | <u>Vehicles</u> | <u>Average</u>   | <u>% Up</u> |
|----------|-----------------|------------------|-------------|
| Pull Out | Required        | <u>Available</u> | (Down)      |
| Weekday: | 22              | 24               | 108%        |
| Weekend: | 15              | 17               | 112%        |

Late Pullouts: 0 \*

Monthly Mileage: 229,304 miles

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

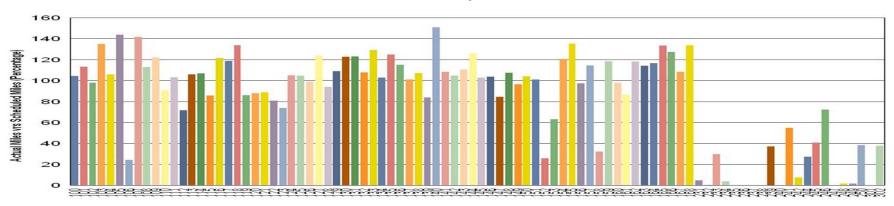




| <u>P2550 – Fleet Size 48 cars</u><br>P2000 – Fleet Size 2 cars |                 |                  |        |  |  |  |  |  |  |  |  |  |
|--|-----------------|------------------|--------|--|--|--|--|--|--|--|--|--|
| Vehicles Average % Up  |                 |                  |        |  |  |  |  |  |  |  |  |  |
| Pull Out   | <b>Required</b> | <u>Available</u> | (Down) |  |  |  |  |  |  |  |  |  |
| Weekday:   | 40              | 41               | 103%   |  |  |  |  |  |  |  |  |  |
| Weekend:   | 26              | 38               | 147%   |  |  |  |  |  |  |  |  |  |
| Late Pullouts:<br>Monthly Milea                                | _               | niles            |        |  |  |  |  |  |  |  |  |  |

## Vehicle Utilization December 2011

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



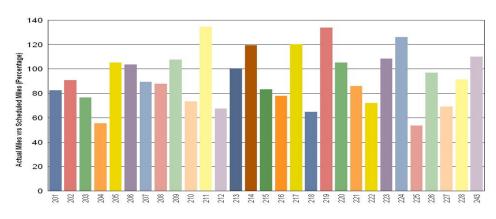
**Blue Line:** 

All vehicles listed below the 40% mark are vehicles run on the Expo line and are low on mile usage.

**Green Line:** 

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

#### Metro Green Line





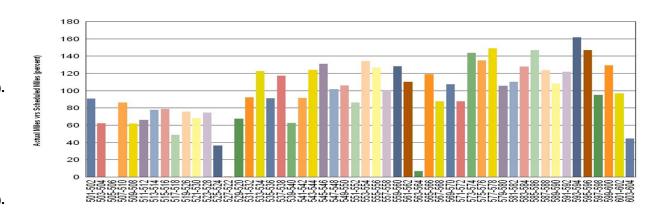
## Vehicle Utilization December 2011

#### **Metro Red Line**

#### **Red Line:**

**Explanation for under-used vehicles:** 

- 525-524 Vehicle is a repeater car with friction brake issues requiring simulated service testing after repairs are completed (repeater process).
- 527-522 Vehicle required 90k service and has had numerous open work orders.
- 563-564 Vehicle is a repeater car with friction brake issues requiring simulated service testing after repairs are completed (repeater process).



#### **Gold Line:**

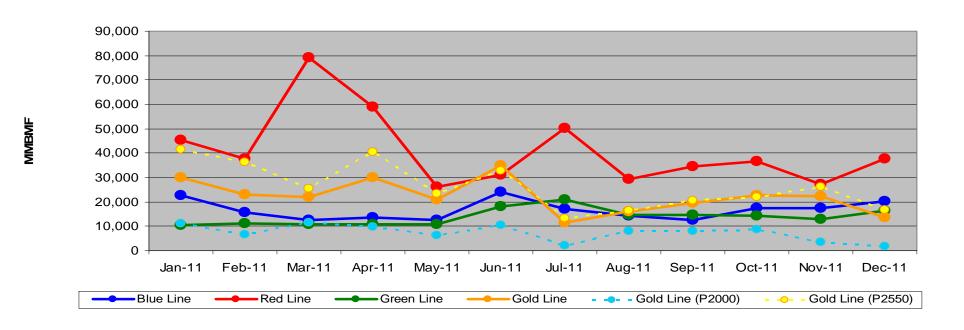
- 720 Vehicle required extensive troubleshooting related to the ATP system. Vehicle returned to service on 12/26/11.
- 728 Vehicle continues to be out of service due to a yard derailment in July.

## Wetro Gold Line Page 160 And Miles Are Scheduled Miles Are Sched



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

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



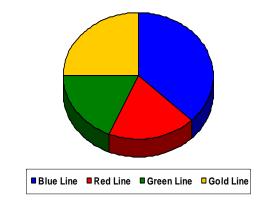
|                   | <u>Jan-11</u> | Feb-11 | <u>Mar-11</u> | Apr-11 | May-11 | <u>Jun-11</u> | <u>Jul-11</u> | <u>Aug-11</u> | <u>Sep-11</u> | Oct-11 | <u>Nov-11</u> | <u>Dec-11</u> |
|-------------------|---------------|--------|---------------|--------|--------|---------------|---------------|---------------|---------------|--------|---------------|---------------|
| Blue Line         | 22,749        | 15,601 | 12,500        | 13,483 | 12,557 | 24,050        | 17,123        | 14,425        | 12,679        | 17,397 | 17,322        | 20,187        |
| Red Line          | 45,357        | 37,732 | 79,178        | 59,089 | 26,084 | 30,932        | 50,099        | 29,298        | 34,535        | 36,745 | 27,358        | 37,551        |
| Green Line        | 10,535        | 11,163 | 10,687        | 10,787 | 10,882 | 18,177        | 20,877        | 14,482        | 14,740        | 14,148 | 13,029        | 16,379        |
| Gold Line         | 30,095        | 23,095 | 22,044        | 30,145 | 20,776 | 34,792        | 11,668        | 15,906        | 19,647        | 22,773 | 22,340        | 13,743        |
| Gold Line (P2000) | 11,208        | 6,689  | 11,413        | 9,625  | 6,377  | 10,351        | 2,153         | 8,019         | 7,872         | 8,887  | 3,509         | 1,639         |
| Gold Line (P2550) | 41,426        | 36,220 | 25,588        | 40,404 | 23,394 | 32,767        | 13,095        | 16,370        | 20,553        | 22,032 | 26,107        | 16,769        |



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

## Repeat Failures December 2011

Metro Blue Line:6Repeat FailuresMetro Red Line:3Repeat FailuresMetro Green Line:3Repeat FailuresMetro Gold Line:4Repeat Failures



| Repeater Car Details - December 2011 |           |         |       |         |       |         |           |         |  |  |  |
|--------------------------------------|-----------|---------|-------|---------|-------|---------|-----------|---------|--|--|--|
| System                               | Blue Line |         | Red   | Line    | Gree  | n Line  | Gold Line |         |  |  |  |
| System                               | Car #     | Repeats | Car # | Repeats | Car # | Repeats | Car #     | Repeats |  |  |  |
| ATP                                  |           |         |       |         |       |         | 716       | 1       |  |  |  |
| Doors                                | 101       | 1       |       |         | 204   | 1       | 704       | 1       |  |  |  |
| PA/Intercom                          | 116       | 1       |       |         |       |         |           |         |  |  |  |
| Propulsion/Dynamic Brake             | 119       | 1       | 537   | 1       | 210   | 2       |           |         |  |  |  |
|                                      | 123       | 3       | 602   | 1       |       |         |           |         |  |  |  |
| Radio                                |           |         | 537   | 1       |       |         | 738       | 2       |  |  |  |
| TOTALS                               |           | 6       |       | 3       |       | 3       |           | 4       |  |  |  |

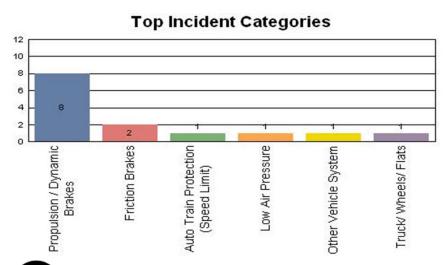


## Major Incidents December 2011

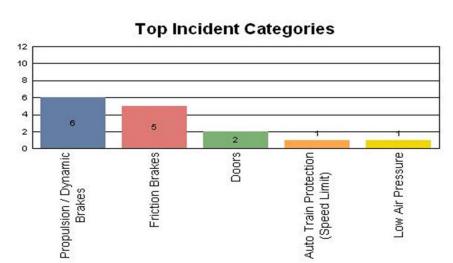
#### **Metro Blue Line**

# Propulsion / Dynamic Brakes Aux power (AC or MA Fault) Low Air Pressure Cother Vehicle System

#### **Metro Green Line**

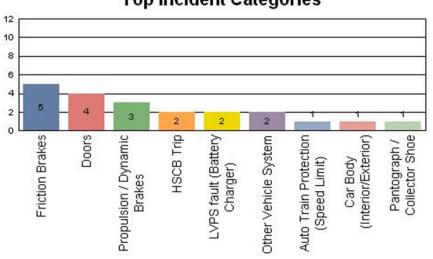


#### **Metro Red Line**



#### **Metro Gold Line**

#### **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.

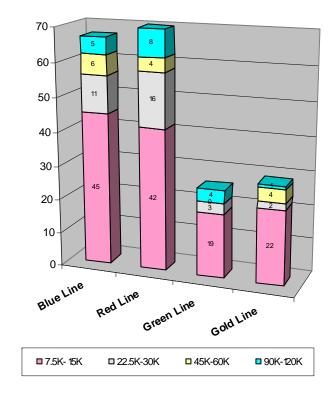
## Preventive Maintenance Compliance December 2011

| PM Compliance     | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Sep-11 | Oct-11 | Nov-11 | Dec-11 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Blue Line         | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   |
| Red Line          | 100%   | 97%    | 100%   | 100%   | 90%    | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   |
| <b>Green Line</b> | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 96%    |
| <b>Gold Line</b>  | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   |

#### December 2011 Preventive Maintenance Inspections

| No. of P.M.<br>Inspections | 7.5K-<br>15K | 22.5K-<br>30K | 45K-<br>60K | 90K-<br>120K | Totals |
|----------------------------|--------------|---------------|-------------|--------------|--------|
| Blue Line                  | 45           | 11            | 6           | 5            | 67     |
| Red Line                   | 42           | 16            | 4           | 8            | 70     |
| Green Line                 | 19           | 3             | 0           | 4            | 26     |
| Gold Line                  | 22           | 2             | 4           | 1            | 29     |
| Totals:                    | 128          | 32            | 14          | 18           | 192    |

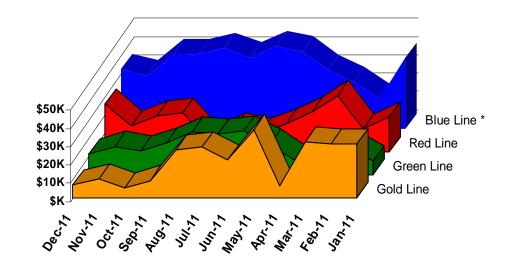
No. of P.M. Inspections



## Vandalism & Graffiti Report December 2011

|             | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Sep-11 | Oct-11 | Nov-11 | Dec-11 | Year-to-<br>Date |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| Blue Line * | \$39K  | \$16K  | \$26K  | \$32K  | \$42K  | \$45K  | \$39K  | \$44K  | \$41K  | \$41K  | \$29K  | \$33K  | \$427K           |
| Red Line    | \$19K  | \$12K  | \$31K  | \$22K  | \$15K  | \$10K  | \$13K  | \$6K   | \$21K  | \$20K  | \$14K  | \$26K  | \$209K           |
| Green Line  | \$7K   | \$15K  | \$7K   | \$8K   | \$16K  | \$24K  | \$22K  | \$23K  | \$17K  | \$13K  | \$15K  | \$11K  | \$180K           |
| Gold Line   | \$29K  | \$29K  | \$31K  | \$7K   | \$37K  | \$21K  | \$28K  | \$26K  | \$9K   | \$5K   | \$10K  | \$7K   | \$239K           |
| Totals:     | \$94K  | \$73K  | \$94K  | \$68K  | \$111K | \$100K | \$102K | \$99K  | \$89K  | \$78K  | \$69K  | \$77K  | \$1,055K         |

| December 2011 Vandalism & Graffiti - All Rail |       |          |           |          |  |  |  |  |  |  |  |
|---|-------|----------|-----------|----------|--|--|--|--|--|--|--|
|   | Qty   | Labor    | Materials | Totals   |  |  |  |  |  |  |  |
| Windows replaced                              | 23    | \$2,772  | \$2,612   | \$5,384  |  |  |  |  |  |  |  |
| Vandal Shields                                | 936   | \$24,560 | \$8,928   | \$33,488 |  |  |  |  |  |  |  |
| Seats Cleaned                                 | 918   | \$2,478  | \$0       | \$2,478  |  |  |  |  |  |  |  |
| Seats Replaced                                | 308   | \$9,667  | \$7,531   | \$17,198 |  |  |  |  |  |  |  |
| Graffiti removal - other                      | 647   | \$8,792  | \$450     | \$9,242  |  |  |  |  |  |  |  |
| Repainting panels                             | 6     | \$7,808  | \$1,452   | \$9,260  |  |  |  |  |  |  |  |
| Totals  | 2,838 | \$56,077 | \$20,973  | \$77,050 |  |  |  |  |  |  |  |



\* Blue Line totals include vandalism & graffiti removal from the P2000 cars that will soon be used on the Expo Line.



## **Graffiti Pictures December 2011**

**Blue Line** 



**Green Line** 



**Gold Line** 

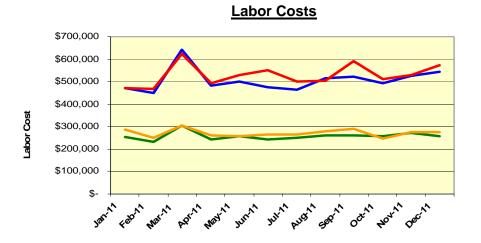




## Material and Labor Costs December 2011

| MATERIALS  | Jan-11        | Feb-11        | Mar-11        |      | Apr-11    | May-11        | Jun-11          | Jul-11        | Aug-11          | Sep-11        | Oct-11        | Nov-11        | Dec-11        |
|------------|---------------|---------------|---------------|------|-----------|---------------|-----------------|---------------|-----------------|---------------|---------------|---------------|---------------|
| Blue Line  | \$<br>311,345 | \$<br>249,678 | \$<br>259,887 | \$   | 368,467   | \$<br>272,272 | \$<br>294,179   | \$<br>167,328 | \$<br>318,296   | \$<br>359,508 | \$<br>256,152 | \$<br>268,760 | \$<br>331,976 |
| Red Line   | \$<br>240,990 | \$<br>213,323 | \$<br>305,345 | \$   | 386,455   | \$<br>277,113 | \$<br>466,346   | \$<br>212,074 | \$<br>410,299   | \$<br>263,808 | \$<br>344,563 | \$<br>272,291 | \$<br>285,916 |
| Green Line | \$<br>228,636 | \$<br>255,578 | \$<br>247,907 | \$   | 189,460   | \$<br>121,859 | \$<br>194,750   | \$<br>129,976 | \$<br>187,997   | \$<br>198,811 | \$<br>254,691 | \$<br>265,489 | \$<br>180,929 |
| Gold Line  | \$<br>86,984  | \$<br>82,141  | \$<br>105,452 | \$   | 96,824    | \$<br>67,967  | \$<br>64,397    | \$<br>47,760  | \$<br>118,401   | \$<br>94,967  | \$<br>98,380  | \$<br>83,425  | \$<br>138,599 |
| Totals     | \$<br>867,955 | \$<br>800,720 | \$<br>918,591 | \$ · | 1,041,206 | \$<br>739,212 | \$<br>1,019,672 | \$<br>557,138 | \$<br>1,034,993 | \$<br>917,095 | \$<br>953,786 | \$<br>889,965 | \$<br>937,420 |

#### \$500,000 \$450,000 \$400,000 \$3300,000 \$250,000 \$150,000 \$100,000 \$50,000 \$50,000

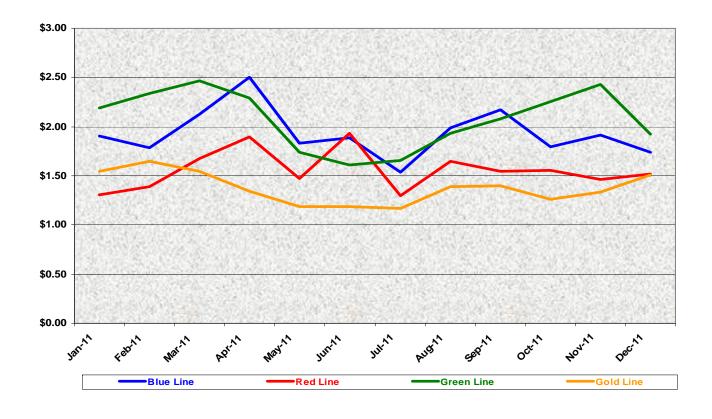


| <u>LABOR</u> | Jan-11       | Feb-11       | Mar-11       | Apr-11       | May-11       | Jun-11       | Jul-11       | Aug-11       | Sep-11       | Oct-11       | Nov-11       | Dec-11       |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Blue Line    | \$ 470,555   | \$ 447,928   | \$ 642,540   | \$ 480,658   | \$ 500,263   | \$ 475,354   | \$ 464,468   | \$ 513,406   | \$ 520,526   | \$ 493,739   | \$ 526,600   | \$ 544,564   |
| Red Line     | \$ 472,105   | \$ 467,849   | \$ 622,201   | \$ 493,104   | \$ 531,171   | \$ 550,464   | \$ 500,504   | \$ 504,785   | \$ 589,986   | \$ 510,944   | \$ 530,408   | \$ 571,885   |
| Green Line   | \$ 255,429   | \$ 230,329   | \$ 305,821   | \$ 244,809   | \$ 257,678   | \$ 243,969   | \$ 250,617   | \$ 259,629   | \$ 261,796   | \$ 256,610   | \$ 272,603   | \$ 259,198   |
| Gold Line    | \$ 285,821   | \$ 248,537   | \$ 303,998   | \$ 259,784   | \$ 257,114   | \$ 264,854   | \$ 265,256   | \$ 280,715   | \$ 289,048   | \$ 246,890   | \$ 274,017   | \$ 276,926   |
| Totals       | \$ 1,483,910 | \$ 1,394,643 | \$ 1,874,560 | \$ 1,478,355 | \$ 1,546,225 | \$ 1,534,641 | \$ 1,480,845 | \$ 1,558,535 | \$ 1,661,357 | \$ 1,508,183 | \$ 1,603,628 | \$ 1,652,573 |



## Cost Per Mile December 2011

| Cost per mile: | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Sep-11 | Oct-11 | Nov-11 | Dec-11 |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Blue Line      | \$1.91 | \$1.79 | \$2.12 | \$2.50 | \$1.83 | \$1.88 | \$1.54 | \$1.99 | \$2.17 | \$1.80 | \$1.91 | \$1.74 |
| Red Line       | \$1.31 | \$1.39 | \$1.67 | \$1.90 | \$1.48 | \$1.93 | \$1.29 | \$1.64 | \$1.55 | \$1.55 | \$1.47 | \$1.52 |
| Green Line     | \$2.19 | \$2.34 | \$2.47 | \$2.30 | \$1.74 | \$1.61 | \$1.66 | \$1.93 | \$2.08 | \$2.26 | \$2.43 | \$1.92 |
| Gold Line      | \$1.55 | \$1.65 | \$1.55 | \$1.35 | \$1.18 | \$1.18 | \$1.17 | \$1.39 | \$1.40 | \$1.26 | \$1.33 | \$1.51 |





## Absences vs. Overtime December 2011

| ABSENCE TYPE and HOURS          | 3940   | 3941   | 3942   | 3943   | 3944   | Total        |
|---------------------------------|--------|--------|--------|--------|--------|--------------|
| AWP-ABSENT W/O PERMISSION       | 0.00   | 1.77   | 0.00   | 0.00   | 0.00   | 1.77         |
| BER-BEREAVEMENT                 | 0.00   | 0.00   | 72.00  | 32.00  | 24.00  | 128.00       |
| CTO-COMPENSATORY TIME OFF       | 0.00   | 214.33 | 208.00 | 156.00 | 146.50 | 724.83       |
| CVA - CASUAL VACATION           | 0.00   | 0.00   | 476.00 | 228.00 | 192.00 | 896.00       |
| EFH-EMG. FLOAT HOL.             | 0.00   | 0.00   | 72.00  | 64.00  | 16.00  | 152.00       |
| ETO-EXCUSED TIME OFF            | 0.00   | 40.00  | 19.45  | 11.43  | 24.90  | 95.78        |
| FML-FAMILY CARE LEAVE           | 0.00   | 56.00  | 540.00 | 256.00 | 272.00 | 1,124.00     |
| HLF-HOLIDAY FLOATING            | 32.00  | 280.00 | 192.00 | 72.00  | 176.00 | 752.00       |
| HNP-HOLIDAY NOT PAID            | 0.00   | 0.00   | 0.00   | 8.00   | 16.00  | 24.00        |
| HOL-HOLIDAY LEGAL               | 104.00 | 528.00 | 464.00 | 112.00 | 136.00 | 1,344.00     |
| II-INDUSTRIAL INJURY            | 0.00   | 16.00  | 112.00 | 0.00   | 0.00   | 128.00       |
| JUR-JURY DUTY                   | 0.00   | 0.00   | 0.00   | 0.00   | 8.00   | 8.00         |
| LC1-LABOR CODE 233              | 24.00  | 137.00 | 223.80 | 48.00  | 96.00  | 528.80       |
| LTI-OCCPIL/LONGTRM INJ LEAVE    | 0.00   | 440.00 | 0.00   | 0.00   | 0.00   | 440.00       |
| MLN-MILITARY ABSENCE-UNPAID     | 0.00   | 0.00   | 176.00 | 0.00   | 0.00   | 176.00       |
| OWP-OFF WITH PERMISSION         | 0.00   | 0.00   | 0.00   | 4.00   | 0.00   | 4.00         |
| RTO-REQUESTED TIME OFF          | 0.00   | 16.00  | 0.00   | 0.00   | 0.00   | 16.00        |
| SCK-SICK PAY                    | 32.00  | 192.00 | 214.85 | 129.00 | 104.00 | 671.85       |
| SCW-SICK WITHOUT PAY            | 0.00   | 72.00  | 1.15   | 32.00  | 16.00  | 121.15       |
| VAC-VACATION                    | 80.00  | 884.00 | 607.50 | 108.00 | 252.00 | 1,931.50     |
| Total Absence Hours             | 272    | 2,877  | 3,379  | 1,260  | 1,479  | 9,268        |
| Number of Work Force (assigned) | 31     | 112    | 104    | 49     | 52     | 348          |
| Full Work Force hours/month     | 5,372  | 19,410 | 18,023 | 8,492  | 9,012  | 60,308       |
| Absence as a % of Work Force    | 5%     | 15%    | 19%    | 15%    | 16%    | 15%          |
| OVERTIME TYPE and HOURS         | 3940   | 3941   | 3942   | 3943   | 3944   | Total        |
| CTB-COMPENSATORY TIME TO BANK   | 8      | 151    | 74     | 42     | 85     | 360          |
| OTP-PREM OVERTIME               | 643    | 2066   | 2745   | 1070   | 1180   | 7704         |
| WLO-Worked Lunch Overtme        | 5      | 31     | 86     | 68     | 62     | 251          |
| Total                           | 656    | 2247   | 2905   | 1180   | 1327   | 8314         |
| Overtime as a % of Work Force   | 12%    | 12%    | 16%    | 14%    | 15%    | 14%          |
|                                 |        |        |        |        |        |              |
| UNCOVERED ABSENCES              | 3940   | 3941   | 3942   | 3943   | 3944   | <u>Total</u> |
| Absences FTE                    | 2      | 17     | 19     | 7      | 9      | 53           |
| OTP FTE                         | 4      | 13     | 17     | 7      | 8      | 48           |
| FTE Difference                  | -2     | 4      | 2      | 0      | 1      | 5            |



## Rail Vehicle Engineering Project Summary December 2011

| Preparation of Engineering Technical Specifications | Tracking #                           | Status  |
|---|--------------------------------------|---|
| Red Line AC Gear Box (Rev. 0)                       | A650/TS/026                          | Draft in Progress   |
| P2000 Doors (Rev. 0)                                | P2000/TS/029                         | Draft in Progress  Draft in Progress  |
| Articulation Diaphragm                              | P865-P2020/TS/060                    | Final Metro Review  |
| Powered Axle Overhaul SOW                           | P2000 SOW                            | Released - Out for bid  |
| Vital Relay Calibration                             | P865/P2020/TS/061                    | In Revising Process   |
| DC Air Compressor Motor Overhaul                    | P865/P2020/TS-057                    | Released  |
| Friction Brake Kit Less Air Compressor Overhaul     | P2000/TS/035                         | In Revising Process   |
| Center Truck Friction Brake Disc                    | P2000/TS/035<br>P2000-TS-020 rev. 01 | Released  |
| A650 Battery Specification                          | A650/TS/39                           | Draft in Progress   |
| Powered Axle Overhaul SOW                           | P865-P2020/TS/xx                     | Draft in Progress  Draft in Progress  |
| Powered Axie Overnaui SOW                           | P865-P2020/TS/XX                     | Drait in Progress   |
|   | General - All Lines                  | Status  |
| Roadway Worker Protection                           |                                      | CPUC/Installing ProTran1 Device on All Fleets   |
| Fleet Support, troubleshooting, and fix cars        |                                      | CH2M Hill   |
| ,   |                                      | 0.12.1.7.1111   |
|   | P2000 Overhaul Program               | Status  |
| Master Controller - Bombardier Refurbish            |                                      | Ongoing Program   |
| Slewing Ring  |                                      | Developing Overhaul Procedures  |
| Traction Motor Overhaul Bid                         |                                      | Solicitation completed - Bid goes to Swiger Coil - Board Approved                               |
| New LED Destination Signs                           |                                      | Luminator Prototype In-Service on Train Under 6 month Evaluation                                |
| Disable Automatic Sanding                           |                                      | Fleet Modification completed.   |
|   |                                      |   |
|   | P865/P2020 Program                   | Status  |
| 5k vs 7.5K Preventative Maintenance Evaluation      |                                      | Investigation in-process  |
| Cobra Brake Pad Testing                             |                                      | Completed AW0 test.   |
| Static Inverter - Transtechnik                      |                                      | Inverter installed and running in revenue service.  |
| EMI On CB1 Tripping                                 |                                      | Investigation in-process  |
| Traction Motor Overhaul                             |                                      | Solicitation completed - Bid goes to Dahl~Beck Electric - Board Approved                        |
| Remotely reset CB1 Breaker                          |                                      | Prototype was successfully tested. In process of procuring parts for fleet modification.        |
| ABB Static Inverter                                 |                                      | Calculation/system integration in process. Unit schedule for February 2012 delivery             |
|   | D0040                                |   |
| 70.51 11.14 70.13 74 11.1                           | P3010                                | Status  |
| 78 New Light Rail Vehicle                           |                                      | Solicitation is in progress.  |
|   | P2000 Gold to Green                  | Status  |
| Signal Package Conversion (Gold to Green)           | 1 2000 0010 10 010011                | On-Hold   |
| Olghar Fackage Conversion (Cold to Creen)           |                                      | TOTAL TOTAL   |
|   | A650 Overhaul Program                | Status  |
| Midlife Overhaul Specification                      |                                      | Specification Complete. On hold - Re-assessing.   |
| Car 591/592   |                                      | Propulsion Investigation complete   |
| HPT Upgrade   |                                      | Wabtec Proposal in review by Metro-Wabtec are modifying 10 units for production testing.        |
| AB New Traction Motor Mount                         |                                      | Prototype was accepted. Working with AB for Fleet Modification.                                 |
| Roll-Back Speed Sensor System                       |                                      | EB Reset Investigation  |
| Friction Brake Kit Overhaul                         |                                      | Solicitation completed - Bid goes to Wabtec - Board Approved                                    |
| Hand Rail - Bike Area                               |                                      | Prototype approved - Procurement buying parts for fleet modification                            |
| Ribbed Rubber Flooring PRF                          |                                      | Proposal in process   |
| <u> </u>  |                                      |   |
|   | P2550                                | Status  |
| Vehicle Acceptance                                  |                                      | Forty eight cars have been Final Accepted.  |
| Bike Space  |                                      | Modified Car 710 as Prototype, ADA approval is complete, awaiting for final plan and signage by |
|   |                                      | Metro-Marketing and bike committee.   |
|   | Expo                                 | Status  |
| Readiness   | Expo                                 |   |
|   |                                      | Metro-RFS Engineering is supporting qualification and test activities of vehicles and wayside.  |
| ATP Certification                                   |                                      | Testing completed; certification letter drafted and under Metro review                          |
| I c (B) c IE c T c                                  |                                      | Signal Test support in progress   |
| Junction of Blue line and Expo line Testing         |                                      | Signal rest support in progress   |



### P2550 Vehicle Acceptance Program December 2011

#### **Vehicle Status Update:**

- Metro has received 48 cars with all 48 being final accepted.
- Two prototype cars remain at contractor's assembly site in Pittsburg and are being updated to the latest configuration.

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

- Event recorder: Configuration continues to be finalized; however, on-site support from contractor and supplier is required to resolve final technical issues. Faiveley-France is targeted to be on site in January 2012 to expedite qualification and provide training.
- Decelerometer Failures: Supplier is currently qualifying replacement decelerometers to replace those on the fleet.

#### **Production Car Status – Pittsburg:**

• Cars 701& 702 - Reconfiguration of cars is in process with rewiring and repining of cables at 100% complete. These cars are now targeted to ship to Los Angeles by April 2012.

#### **Project Management:**

- Contract spares continue to be delivered to Metro and estimated to be 85% complete. All parts needed for day-to-day
  maintenance have been received. Critical parts needed for heavy repairs are scheduled to begin arriving in Q1 2012.
- Daily and bi-weekly meetings are scheduled with contractor management to address project issues.



### QA-Warranty Program Projects Summary December 2011

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

- Conducted 38 QA audits: MRL (8), MBL (8), MGL (8), MGDL (10), Vendors (4). Exceeded yearly goal mandated by OIG / CPUC (16) by 200%.
- P2550 Car Modification Campaign / testing oversight, Metro/ABI warranty meetings, tracking reliability trends, parts reimbursement & warranty man-hours review: On-going.
- A650 Base Buy & Option car fleet warranty Truck Frame Modification Campaign (30 trucks of 232 modified to date). A MRL Cost Avoidance savings to date is \$121,740.00.
- Conducted QA First Article Inspections (21).
- Technical support, Expo Line ATP/TWC Project, Overhauls / Mod Programs, (A650/P2000/P2020/865) Friction Brakes, HPT's, Brake Resistor Grids, T/M's, MA's, ATP Vital Relays, CB1 Trips, HVAC, Doors, Video downloads.
- OIG Maintenance Investigation (May 20, 2010 to July 20, 2011): Internally closed out by RFS Mgt Nov 5, 2011.
- QA Program Audit American Public Transit Exams Institute (Sept 16, 2011 Dec 2011) closed out.
- Rev #2, QA & Warranty Manuals updates approved by Mgt Dec 8, 2011.
- For all Divisions Warranty Cost Avoidance for 2011 (\$521,178.40).
- HR Manpower & TCU Chairman, discussions ongoing Equipment Record Specialist (ERS) roster separation (Bus from Rail): No status.
- Archived all reports and records onto QA-Warranty's Share Drive.



## RFS Instruction Department Activities December 2011

10.4

8.9

| Description  | Training classes completed during the                | month o        | f Decem  | ber 2011  | I    |
|--|--|----------------|----------|---|------|
| Blue & Expo Line Training - (P865/2020 & P2000 LRV):   RFS SIEMENS 2000 COUPLER  |  | Course         | Student  | Training  |      |
| RFS SIEMENS 2000 COUPLER   | Description  | Hours          | Count    | Hours   |      |
| RFS SIEMENS 2000 COUPLER   | <u> </u>   |                |          |   | •    |
| RFS SIEMENS 2000 HVAC       64       5       320         RFS SIEMENS 2000 DOOR CONTROLS       Total Blue Line Training (Hours): 560         Green Line Training (P2000 LRVs):         RFS SIEMENS 2000 COUPLER       8       1       8         RFS SIEMENS 2000 DOOR CONTROLS       64       1       64         RFS SIEMENS 2000 DOOR CONTROLS       40       1       40         Total Green Line Training (Hours):       112         Gold Line Training (P2550 LRVs):         RFS ANSALDOBREDA 2550 TRUCKS       24       3       72         RFS ANSALDOBREDA 2550 TRUCKS       24       3       72         RFS ANSALDOBREDA 2550 DOORS       32       4       128         RFS ANSALDOBREDA 2550 COUPLER       12       3       36         RFS ANSALDOBREDA 2550 FRICTION BRAKES       40       3       120         Total Gold Line Training (Hours):       404         Total RFS Instruction for the month of December 2011 (Hours):       1,076.0         Other Instruction Activities       240.0         Vacations, Holidays, Sick Time       160         Red Line Technical Suppor   | Blue & Expo Line Training - (P865/2020 & P2000 LRV): |                |          |   |      |
| Total Blue Line Training (Hours):   560  | RFS SIEMENS 2000 COUPLER                             | 8              | 5        | 40  |      |
| Total Blue Line Training (Hours):   560  | RFS SIEMENS 2000 HVAC                                | 64             | 5        | 320   |      |
| Green Line Training (P2000 LRVs):           RFS SIEMENS 2000 COUPLER         8         1         8           RFS SIEMENS 2000 HVAC         64         1         64           RFS SIEMENS 2000 DOOR CONTROLS         40         1         40           Total Green Line Training (Hours):         112           Gold Line Training (P2550 LRVs):           RFS ANSALDOBREDA 2550 TRUCKS         24         3         72           RFS ANSALDOBREDA 2550 CAR BODY         16         3         48           RFS ANSALDOBREDA 2550 DOORS         32         4         128           RFS ANSALDOBREDA 2550 CUPLER         12         3         36           RFS ANSALDOBREDA 2550 CUPLER         12         3         36           RFS ANSALDOBREDA 2550 FRICTION BRAKES         40         3         120           Total Gold Line Training (Hours):         404           Total RFS Instruction for the month of December 2011 (Hours):         1,076.0           Other Instruction Activities         240.0           Vacations, Holidays, Sick Time         80           Total Other Instruction Activities         240.0           Core Vehicl  | RFS SIEMENS 2000 DOOR CONTROLS                       | 40             | 5        | 200   |      |
| RFS SIEMENS 2000 COUPLER   | Total Blue Li  | ne Training    | (Hours): | 560   |      |
| RFS SIEMENS 2000 COUPLER   | Green Line Training (P2000 LRVs)                     |                |          |   |      |
| ## RFS SIEMENS 2000 HVAC   64  |  | 8              | 1        | 8   |      |
| ### Total Green Line Training (Hours): 112    Gold Line Training (P2550 LRVs):   |  | _              |          | _   |      |
| Sold Line Training (P2550 LRVs):   RFS ANSALDOBREDA 2550 TRUCKS   24   3   72     RFS ANSALDOBREDA 2550 CAR BODY   16   3   48     RFS ANSALDOBREDA 2550 CORS   32   4   128     RFS ANSALDOBREDA 2550 COUPLER   12   3   36     RFS ANSALDOBREDA 2550 FRICTION BRAKES   40   3   120     Total Gold Line Training (Hours):   404     Total RFS Instruction for the month of December 2011 (Hours):   1,076.0     Other Instruction Activities   160     Red Line Technical Support   80     Core Vehicle Training Completed:   BLUE   RED   GREEN   GO     Percentage of core vehicle training complete:   87.4%   99.5%   92.1%   90.3     90.50   90.50   90.50   90.50     Percentage of core vehicle training complete:   87.4%   99.5%   92.1%   90.50     90.50   90.50   90.50     90.50   90.50   90.50     90.50   90.50   90.50     90.50   90.50   90.50     90.50   90.50   90.50     90.50   90.50   90.50     90.50   90.50 | RFS SIEMENS 2000 DOOR CONTROLS                       | 40             | 1        | 40  |      |
| RFS ANSALDOBREDA 2550 TRUCKS       24       3       72         RFS ANSALDOBREDA 2550 CAR BODY       16       3       48         RFS ANSALDOBREDA 2550 DOORS       32       4       128         RFS ANSALDOBREDA 2550 COUPLER       12       3       36         RFS ANSALDOBREDA 2550 FRICTION BRAKES       40       3       120         Total Gold Line Training (Hours):       404         Total RFS Instruction for the month of December 2011 (Hours):       1,076.0         Other Instruction Activities         Vacations, Holidays, Sick Time       160         Red Line Technical Support       80         Total Other Instruction Activities       240.0         Core Vehicle Training Completed:       BLUE       RED       GREEN       GO         Percentage of core vehicle training complete: 87.4%       99.5%       92.1%       90.3   | Total Green Li                                       | ne Training    | (Hours): | 112   |      |
| RFS ANSALDOBREDA 2550 TRUCKS       24       3       72         RFS ANSALDOBREDA 2550 CAR BODY       16       3       48         RFS ANSALDOBREDA 2550 DOORS       32       4       128         RFS ANSALDOBREDA 2550 COUPLER       12       3       36         RFS ANSALDOBREDA 2550 FRICTION BRAKES       40       3       120         Total Gold Line Training (Hours):       404         Total RFS Instruction for the month of December 2011 (Hours):       1,076.0         Other Instruction Activities         Vacations, Holidays, Sick Time       160         Red Line Technical Support       80         Total Other Instruction Activities       240.0         Core Vehicle Training Completed:       BLUE       RED       GREEN       GO         Percentage of core vehicle training complete: 87.4%       99.5%       92.1%       90.3   |  |                |          |   |      |
| RFS ANSALDOBREDA 2550 CAR BODY       16       3       48         RFS ANSALDOBREDA 2550 DOORS       32       4       128         RFS ANSALDOBREDA 2550 COUPLER       12       3       36         RFS ANSALDOBREDA 2550 FRICTION BRAKES       40       3       120         Total Gold Line Training (Hours):       404         Total RFS Instruction for the month of December 2011 (Hours):       1,076.0         Other Instruction Activities         Vacations, Holidays, Sick Time       160         Red Line Technical Support       80         Total Other Instruction Activities       240.0         Core Vehicle Training Completed:       BLUE       RED       GREEN       GO         Percentage of core vehicle training complete:       87.4%       99.5%       92.1%       90.3  |  |                |          |   |      |
| RFS ANSALDOBREDA 2550 DOORS  RFS ANSALDOBREDA 2550 COUPLER RFS ANSALDOBREDA 2550 COUPLER RFS ANSALDOBREDA 2550 FRICTION BRAKES  Total Gold Line Training (Hours):  Total RFS Instruction for the month of December 2011 (Hours):  Other Instruction Activities  Vacations, Holidays, Sick Time Red Line Technical Support  Total Other Instruction Activities  Core Vehicle Training Completed:  BLUE RED GREEN GO Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3  |  | <del>-</del> - | -        |   |      |
| RFS ANSALDOBREDA 2550 COUPLER RFS ANSALDOBREDA 2550 FRICTION BRAKES  Total Gold Line Training (Hours): 404  Total RFS Instruction for the month of December 2011 (Hours): 1,076.0  Other Instruction Activities Vacations, Holidays, Sick Time 160 Red Line Technical Support 80  Total Other Instruction Activities  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   |  |                | _        |   |      |
| Total Gold Line Training (Hours): 404  Total RFS Instruction for the month of December 2011 (Hours): 1,076.0  Other Instruction Activities Vacations, Holidays, Sick Time 160 Red Line Technical Support 80  Total Other Instruction Activities  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3  |  | _              | =        | -   |      |
| Total Gold Line Training (Hours): 404  Total RFS Instruction for the month of December 2011 (Hours): 1,076.0  Other Instruction Activities  Vacations, Holidays, Sick Time 160  Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3  |  |                | -        |   |      |
| Total RFS Instruction for the month of December 2011 (Hours): 1,076.0  Other Instruction Activities  Vacations, Holidays, Sick Time 160  Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | RFS ANSALDOBREDA 2550 FRICTION BRAKES                | 40             | 3        | Hours  40 320 200  : 560  8 64 40  : 112  72 48 128 36 120  : 404  : 1,076.0  160 80  240.0 |      |
| Other Instruction Activities  Vacations, Holidays, Sick Time 160  Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3  | Total Gold Li  | ne Training    | (Hours): | 404   | _    |
| Vacations, Holidays, Sick Time 160 Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | Total RFS Instruction for the month of Dece          | ember 2011     | (Hours): | <u>1,076.0</u>  |      |
| Vacations, Holidays, Sick Time 160 Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | Other Instruction Activities                         |                |          |   |      |
| Red Line Technical Support 80  Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3  |  |                |          | 160   |      |
| Total Other Instruction Activities 240.0  Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | •  |                |          |   |      |
| Core Vehicle Training Completed: BLUE RED GREEN GO  Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | The Line rediffical support                          |                |          | 00  |      |
| Percentage of core vehicle training complete: 87.4% 99.5% 92.1% 90.3   | Total Other Instruction Activitie                    | <u>es</u>      |          | <u>240.0</u>  |      |
|  | Core Vehicle Training Complete                       | d: BLUE        | RED      | <u>GREEN</u>  | GOL  |
|  | Percentage of core vehicle training complet          | e: 87.4%       | 99.5%    | 92.1%   | 90.3 |
|  |  |                | N/A      | N/A   | N/A  |

**Average Specialist Rail Experience Level in Years:** 

**Metro** 

