

REPORT FOR INFORMATION

COMMITTEE: Rail and Metrolink Networks
DATE: 16th July 2010
SUBJECT: Metrolink Service Performance
REPORT OF: Metrolink Director, GMPTE

PURPOSE OF REPORT

To inform Members of the service performance and developments which affect the Metrolink system over recent months.

RECOMMENDATIONS

Members are invited to consider the report and to:

- Note the performance of Metrolink services.

BACKGROUND DOCUMENTS

Report to Rail and Metrolink Networks – 9th April 2010

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1. Introduction

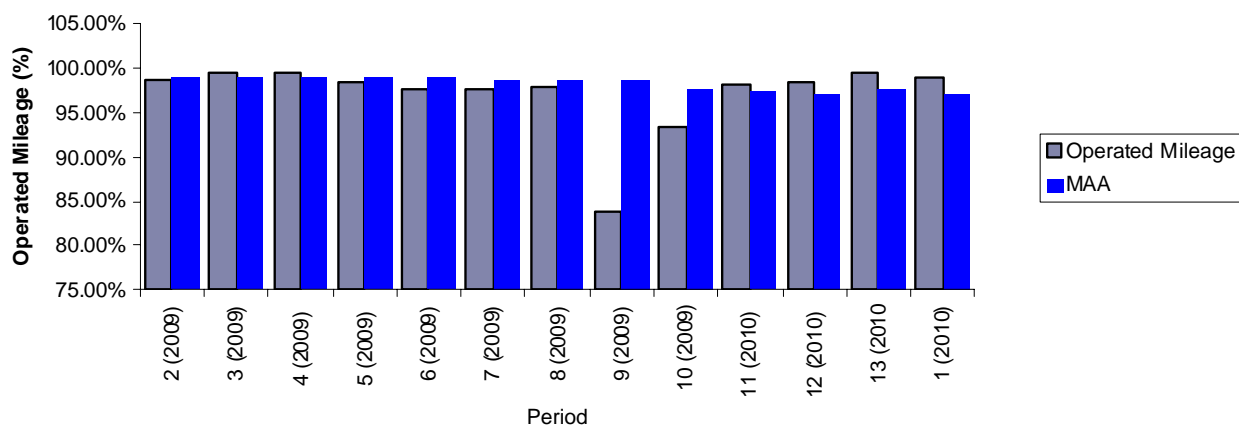
- 1.1 This report contains Metrolink performance summaries for Periods 11, 12, 13 and 1 of Stagecoach operations (Monday 8th February – Sunday 30th May 2010). Also detailed are results for Metqual inspections for the same Periods.
- 1.2 A reporting Period is a consecutive period of 28 days in line with the contract between GMPTE and Stagecoach. There are 13 Periods in a year and all performance charts show a summary of the last 13 Periods along with the Moving Annual Average (MAA) for the year. A list of Period dates can be found in Appendix 5 of this report.

2. Executive Summary

- 2.1 Performance as measured by Operated Mileage has improved significantly over four Periods from 98.15% in period 11, 98.32% in period 12, and 99.41% in period 13 before falling slightly to 98.96% in period 1. (See Chart 1 in section 3). The Moving Annual Average as at Period 1 is 97.45%. The majority of miles lost during these Periods were attributable to vehicle reliability, particularly in Period 11 where reliability issues accounted for 65% of lost miles.
- 2.2 There were 19 major incidents during Periods 11, 12, 13 and 1 which caused delays in service of over 30 minutes and impacted on performance.
- 2.3 Of the 19 incidents, 5 were as a result of Road Traffic Collisions (RTC's) including one case of a broken down bus, 9 were caused by failures of trams in service, 2 were caused by infrastructure failure, 2 were as a result of United Utilities power outages and 1 was caused by a security alert at Piccadilly rail station. The incidents are described in more detail in section 3.3.
- 2.4 An Operational Safety Group (OSG) comprising of representatives of GMPTE, GMUTC and local authorities meets on a quarterly basis to review safety of the tram operations in the City Centre. The RTCs described in this report will be reviewed in detail by the OSG.
- 2.5 The additional measure of trams in service during the day increased steadily during the periods covered by the report from 98.46% in Period 11 to 99.49% in Period 1. This is helped by the increasing number of M5000 trams that are available for service.
- 2.6 Since the middle of March 2010, additional services have been operating to increase capacity. An extra double unit has been operating during the morning and evening peak and a shuttle has been operating between Timperley and Victoria during the morning peak.

3. Service Performance

Chart 1 - Operated Mileage



Scheduled mileage	Mileage which Stagecoach Metrolink is contracted to operate to run the timetable.
Operated Mileage	Actual miles operated and as a percentage of scheduled mileage
MAA	Moving Annual Average over the last 13 Periods (The sum of operated mileage over the last 13 Periods, divided by 13 to obtain the rolling annual average for operated mileage).

3.1 Operated Mileage

3.1.1 Operated Mileage as shown in Chart 1, is used as a measure of Operator performance and illustrates the actual miles operated as a proportion of the scheduled mileage and therefore is an indicator of the service delivered to passengers.

3.1.2 Operated mileage in Period 11 finished at 98.15%, 98.32% in Period 12, 99.41% in Period 13 and 98.96% in Period 1. Listed below are the incidents which impacted on performance during Periods 11, 12, 13 and 1.

- February 10th – An RTC between two cars resulted in the outbound track of the Eccles line being blocked at Harbour City. The Eccles service was turned at Salford Quays for approximately 45 minutes until the cars were removed from the track and the service could resume as normal.
- February 11th – Tram 3001 was involved in an RTC with a lorry on Langworthy Road which caused the centre bogie to derail. Vehicle technicians were deployed to the scene along with Police and an Incident Officer. After approximately 3½ hours the vehicle was re-railled and returned to the depot. The Eccles service was turned at Broadway and passengers were able to use Metrolink tickets on the 33 bus service for the duration of the disruption.
- February 13th – 1022 was involved in an RTC with a taxi at the junction of Mosley Street and Nicholas Street outbound. There were no reported injuries. Vehicle technicians and the Police were deployed to the scene.

The Altrincham and Eccles services were turned at GMEX for 30 minutes until the vehicle was moved and normal service across the city resumed.

- February 16th – 1010 was involved in an RTC with a car and a cyclist on Mosley Street near St. Peter's Square. Police were advised and vehicle technicians were despatched from Queens Road. Services operated from Bury to Piccadilly and Altrincham and Eccles to GMEX for 1 hour until normal service resumed.
- February 18th – 1005 failed at Cornbrook on the outbound line with no brake release. The vehicle was coupled to 2006 and moved to Timperely sidings. Normal service resumed after 45 minutes.
- February 18th – 1012 failed at Ladywell outbound. Technicians were despatched from Queens Road and the vehicle was coupled to 2006 and normal service resumed on the Eccles line after 2 hours.
- 19th February – 1021 failed during the morning peak with a loss of traction. A full reset by the driver failed to rectify the problem and technicians were deployed from Queens Road. Services were turned at GMEX and Piccadilly for approximately 30 minutes while the failed vehicle was removed.
- 25th February – 1025 experienced a brake release fault at Harbour City. Vehicle technicians were deployed from Queens Road. A service operated between Piccadilly and Salford Quays and passengers were also advised that they could use the 33 bus service. 1025 was coupled to 2005 and was propelled back to Queens Road after approximately 1 ½ hours.
- 3rd March – All services into Piccadilly Undercroft were suspended during the evening peak due to a security alert at Piccadilly Station. Piccadilly services were turned at Aytoun Street for 30 minutes until the Police advised it was safe to resume normal service.
- March 11th – 2003 failed at Pomona on the inbound line with no brake release. The vehicle was coupled to 2006 and moved to Victoria sidings. Normal service resumed after 43 minutes.
- March 15th – The service across the city was disrupted by a broken down bus on Lower Mosley Street. Metrolink services operated between Bury and Piccadilly with the Altrincham and Eccles services turning at GMX until the bus was moved. Normal service resumed after 39 minutes.
- March 17th – Damage to the overhead electrical line at Dane Road caused the service to Altrincham to be suspended from 16:30 to the end of service. Services operated to Trafford Bar from where passengers were able to use a tram replacement bus service which called at every Metrolink tram stop to and from Altrincham. Passengers were also able to use Metrolink tickets on the 263 bus route.
- March 22nd – 1009 failed at Anchorage on the inbound line with an auxiliary inverter fault. The Eccles service operated between the City and Salford Quays and Weaste to Eccles supplemented by a replacement bus service operating between Salford Quays and Weaste. After 1 hour 20 minutes the vehicle was coupled and returned to the depot.
- March 25th – 1005 failed outside Besses o' th' Barn stop on the outbound line with a compressor fault during the evening peak. The vehicle was

rescued and coupled to a double unit and taken out of service to Bury. The service resumed after 34 minutes.

- March 27th – The driver of vehicle 2002 reported that a vehicle step was stuck under the platform at Piccadilly Gardens. Bury and Altrincham services ran direct with Eccles services turning at Victoria. The service was affected for 30 minutes.
- 20th April – The driver of 1018 reported a significant drop in air pressure and the brakes had applied north of Hagside crossing. The vehicle was coupled to another and returned to Queens Road for investigation. Normal service resumed after 45 minutes.
- 11th May – A United Utilities power cut affected auxiliary power supplies at Bury station. CCTV, PA equipment, TVM's, points and signalling were affected as well as communications to substations on the Bury line. A replacement bus ran for approximately 2 hours until normal service resumed.
- 12th May – The same power fault recurred at Bury at the start of service the following morning. Passengers were able to use the 135 and 98 commercial bus services while services turned at Whitefield. After approximately 2 hours United Utilities confirmed the power had been restored and services to Bury resumed.
- 21st May – Following reports of an issue with the overhead line at Sale, services were suspended between Old Trafford and Altrincham. Passengers were able to use the Arriva 263 service to Altrincham while technicians investigated the problem. A replacement bus service was supplied and normal services resumed after approximately 5 hours.

3.2 Vehicle Availability

3.2.1 During the periods covered by this report the required availability of trams in service (Mon – Fri) was 29 vehicles. Actual availability for each period was as follows: Period 11 99.09%, Period 12 99.95%, Period 13 99.91%, Period 1 was 100%.

3.2.2 During normal operations the target availability is lower on Saturday and Sunday. However, where possible, the Operator will run extra vehicles, increasing the frequency of service at the weekend.

Vehicle Reliability

3.2.3 Actions to improve the reliability of the trams continued to be taken during the Periods covered by the report.

3.2.4 Motor modifications to the inverter fans have been fitted which have increased the motor reliability and improved the air flow. The benefits have been evident following recent periods of hot weather. Last summer a number of phase 2 trams overheated as a consequence of dated and unreliable motors, and so far there have been no instances of this re-occurring.

A number of longer term projects continue including fitting new speed probes, new cooling air intake cowlings, new compressors, rear view CCTV and the planned re-conditioning of problematic electronic cards.

The improvement projects vary in duration depending on their work content and the introduction of the M5000 trams has enabled the existing trams to spend more time in the depot undergoing modifications.

- 3.2.5 The performance of the M5000's continues to be closely monitored and reliability performance is proving to be very good.
- 3.2.6 The scope for mid-life refurbishment programme of the T68's to address outstanding reliability issues is currently being developed in conjunction with the Operator.
- 3.2.7 All of the T68 vehicles have been fitted with the new equipment in readiness for the implementation of Tram Operating System ("TOS"). Installation on the M5000's will continue.
- 3.2.8 Four vehicles were out of service during Periods 11, 12, 13 and 1.
- 3.2.9 Tram 2001 remains long term out of service. The continued unavailability of this tram was escalated within the Operator's organisation to ensure that the necessary focus and resource is available to enable the tram to return to service. Dump valves have been identified as the outstanding issue and, following the procurement of a set of batteries, a program of testing will recommence of June 30th.
- 3.2.10 Tram 3001 remains out of service following a road traffic collision. A meeting of GMPT, the Operator and Bombardier continues to review the best way of progressing repairs.
- 3.2.11 Tram 3007 is due to be repaired following a derailment at Queens Road depot. A revised quote for the repair has been received and planning continues to confirm when the repair will be completed.
- 3.2.12 Tram 1011 completed its special projects modifications and has since returned to passenger service.
- 3.2.13 Since the middle of March 2010, additional services have been operating to increase capacity. An extra double unit has been operating during the morning and evening peak and a shuttle has been operating between Timperley and Victoria during the morning peak.

3.3 Complaints

- 3.3.1 The total number of written and verbal complaints received in Period 11 was 1,587. There was almost a 50% increase in the number of complaints received for delayed services on the Eccles line after RTC incidents on 10th, 11th and a vehicle failure on 25th February.
- 3.3.2 In Period 12, the total number of written and verbal complaints received reduced to 916. The majority of complaints in this Period related to service disruption following the suspension of the Altrincham line as a result of damage to the overhead electrical line at Dane Road.
- 3.3.3 In Period 13 there was a further decrease in the number of written and verbal complaints to 575. There was a significant reduction in the

number of delays of over 30 minutes which was mirrored in a 29% decrease in the number of service disruption complaints received in the Period.

- 3.3.4 There was a significant increase in customer complaints received by the Operator during Period 1 to 1435. There were two serious disruptions during the period that contributed to this increase: on 21st May following the suspension of services from Old Trafford to Altrincham as a consequence of an issue with the overhead line at Sale, and during May 22nd when three trams failed within a short space of time resulting in major delays across the system. There was also an increase in complaints about TVMs in Period 1 as described in 3.3.5 below.
- 3.3.5 Complaints regarding TVMs have risen from 194 in Period 11, 254 in Period 12, 323 in Period 13 and 666 in Period 1. Since the introduction of the new TVM's there have been some issues with coin acceptance and touch screen operations. Additionally, a power failure of some TVMs in mid-May 2010 generated a large number of complaints. All the issues with the TVMs have been escalated to the Chief Executive of the supplier and an action plan has now been formulated and is currently being implemented.

4 Metrolink Performance Monitoring

- 4.1 The contractual performance regime with the Operator measures several aspects of performance including reliability (headway between trams), capacity (number of trams run each service hour) and the punctuality of the first and last trams of the day.
- 4.2 The results for MetQual inspections carried out during Periods 11, 12, 13 and 1 are reported in the attached graphs. Of particular note from the results of the inspections carried out at stops and on trams is that cleaning is an area of service provision that needs to be improved. The PTE and the Operator are conducting a review of the standards being achieved and will be identifying areas for improvement.
- 4.3 Lift and escalator availability showed a slight improvement in Period 1 but it remains low overall. This will be addressed through the lift refurbishment programme for the Bury line stops, the programme for which is currently being finalised.
- 4.4 Under the Agreement, the Operator is required to operate a specified number of trams each hour. This requirement varies for peak and off-peak service hours and also for services between Altrincham and Bury and those for Eccles.
- 4.5 The actual performance of the Operator compared to the contracted performance is shown in Appendix 2.
- 4.6 Under the Agreement, the first and last departures from each of the specified starting points are measured for punctuality. These points are Altrincham, Bury, Eccles, GMex and Victoria. The performance of the

Operator compared to the contractual requirement is shown in Appendix 2.

4.7 The measurement of service intervals, capacity and punctuality is intended to provide a complete picture of the performance of the Metrolink system. Due to the constraints described above and reported previously to the Committee, additional arrangements have been put in place to provide greater visibility of Operator performance.

4.8 Additional Performance Measures

4.8.1 The actual number of trams in service during the course of each day is being tracked on an hour by hour basis and compared with the contractual requirement for trams in service.

4.8.2 The Operator is required to operate a certain number of trams, each hour, for both Phase 1 and 2. This requirement changes to allow for the double units to be used during the peak, and is also altered for the weekend service.

4.8.3 Monitoring the actual number of trams in service against the contractual requirement provides the results detailed in Appendix 3 and a commentary of the results is given below. For the purpose of this report the results of this additional monitoring have been aggregated to provide a summary for each period.

4.8.4 In Period 11 performance was affected by vehicle failures and two RTC's between the morning and evening peaks during week 1. The majority of incidents occurred in the first week of the Period compared to any other time. This resulted in an overall average of 98.46% of trams being in service against the required number of trams in service.

4.8.5 The trams in service had increased marginally to 98.68% in Period 12. In week two damage to the overhead line at Dane Road caused the Altrincham line service to be suspended from 16:30 to the end of service. Trams in service were affected in week 3 following three separate vehicle failures amounting to almost 3 hours.

4.8.6 Period 13 saw a rise to 99.74% of trams in service. There was only one incident leading to disruption of over 30 minutes.

4.8.7 Trams in service in Period 1 decreased marginally to 99.49%. The issue with the overhead line at Sale led to a reduction in the number of trams that were able to run on the network. Services were turned at Old Trafford while technicians addressed the problem.

5. Patronage

5.1 Background

5.1.1 Patronage is being derived initially from sales via Ticket Vending Machines (TVM) and the range of season tickets offered from weekly to annual (ST). These are the highest patronage generating areas and most sensitive areas to change.

5.1.2 During December 2009 patronage KPI's and targets were drafted for the three years from 2010/11 to 2012/13, these targets were agreed and formalised prior to 31st March 2010 year end. Rolling annual patronage has been targeted on a quarterly basis to account for the effects of the 2009 blockades. Work carried out in developing and validating the methodology for measuring other patronage areas and refining current assumptions is currently being assessed by the Strategy Directorate of the PTE and an update will be provided when this assessment is complete.

5.2 Data

Monthly patronage 2009/10 using updated assumptions

Month	Actual 2009/10		
	TVM 000s	ST 000s	Bus Replacement 000s
April	746	222	
May	730	187	
June	759	208	
July	717	152	
August	269	115	269*
September	643	249	
October	770	222	
November	752	255	
December	1,001	203	
January	784	282	
February	792	239	
March	926	244	
Total	8,888	2,578	269

* This figure is additional to the patronage derived from the TVM's

Monthly patronage 2010/11 using updated assumptions

Month	Actual 2010/11	
	TVM 000s	ST 000s
April	890	261
May	893	260
Total	1,783	521

6. Recommendations

Please see front sheet of report.

**Philip Purdy
Metrolink Director**

APPENDIX 1

Chart 2A Period 11 – Vehicle availability in the morning peak (07:30hrs)

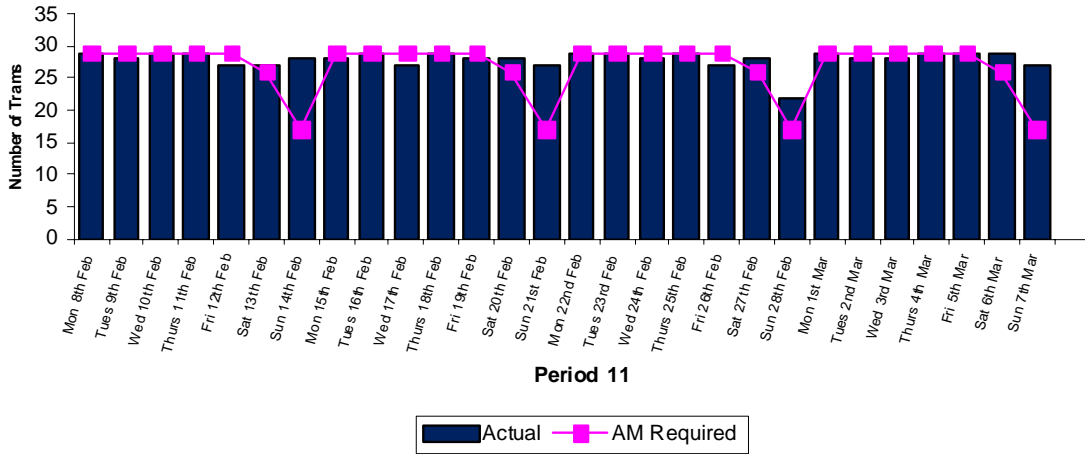


Chart 2B Period 12 – Vehicle availability in the morning peak (07:30hrs)

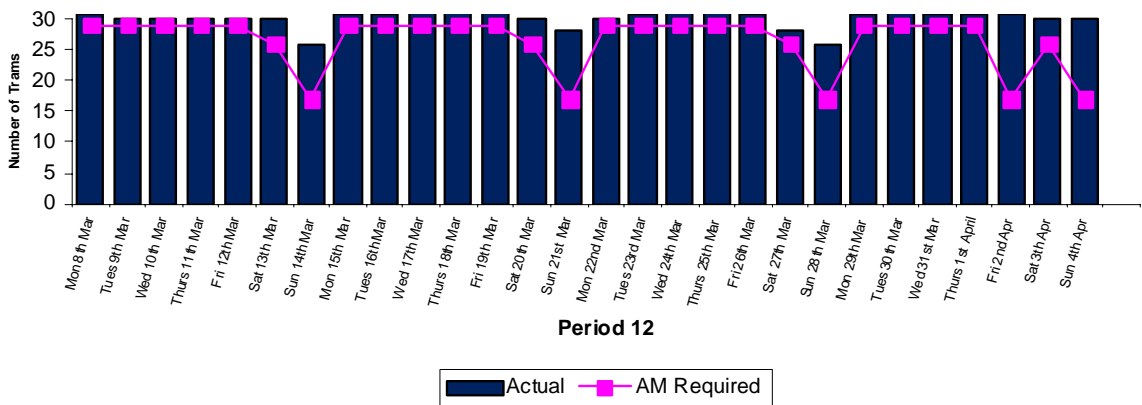


Chart 2C Period 13 – Vehicle availability in the morning peak (07:30hrs)

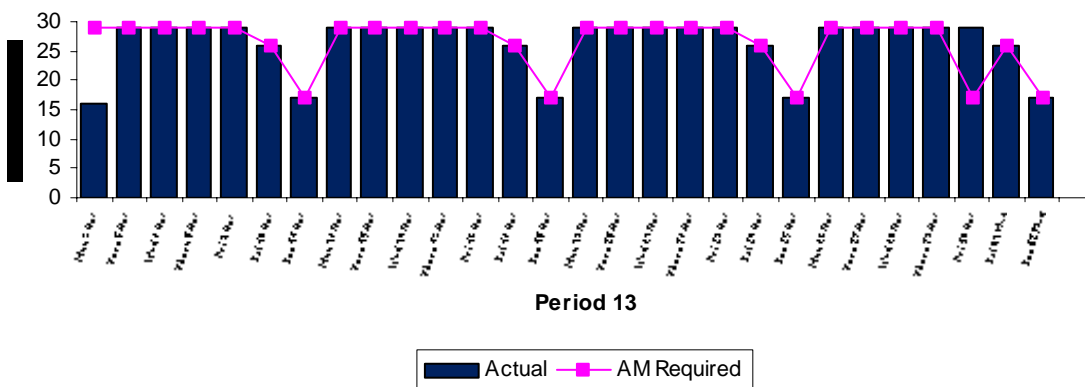
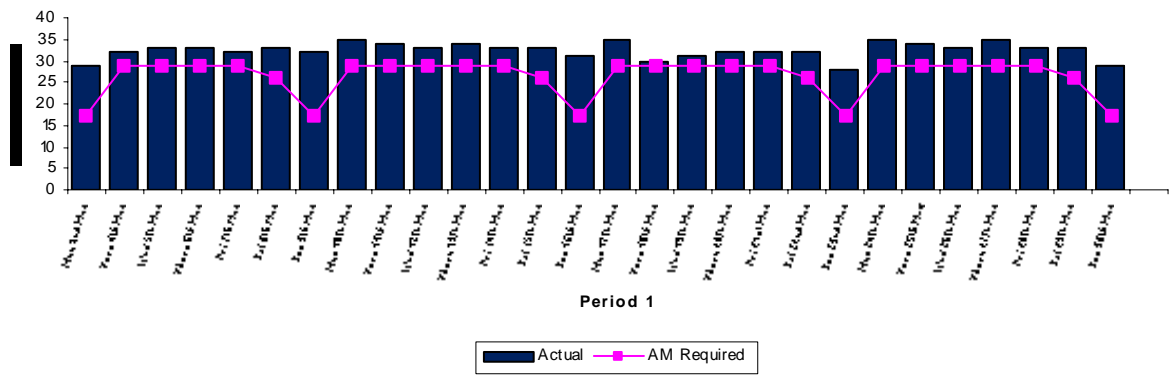
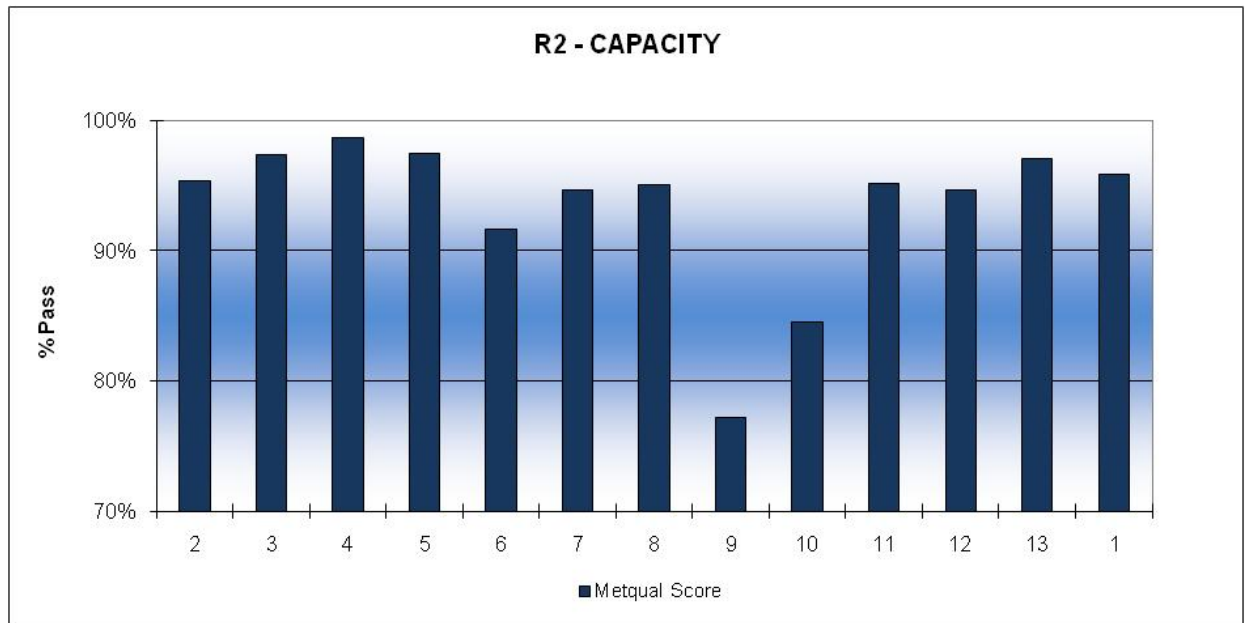


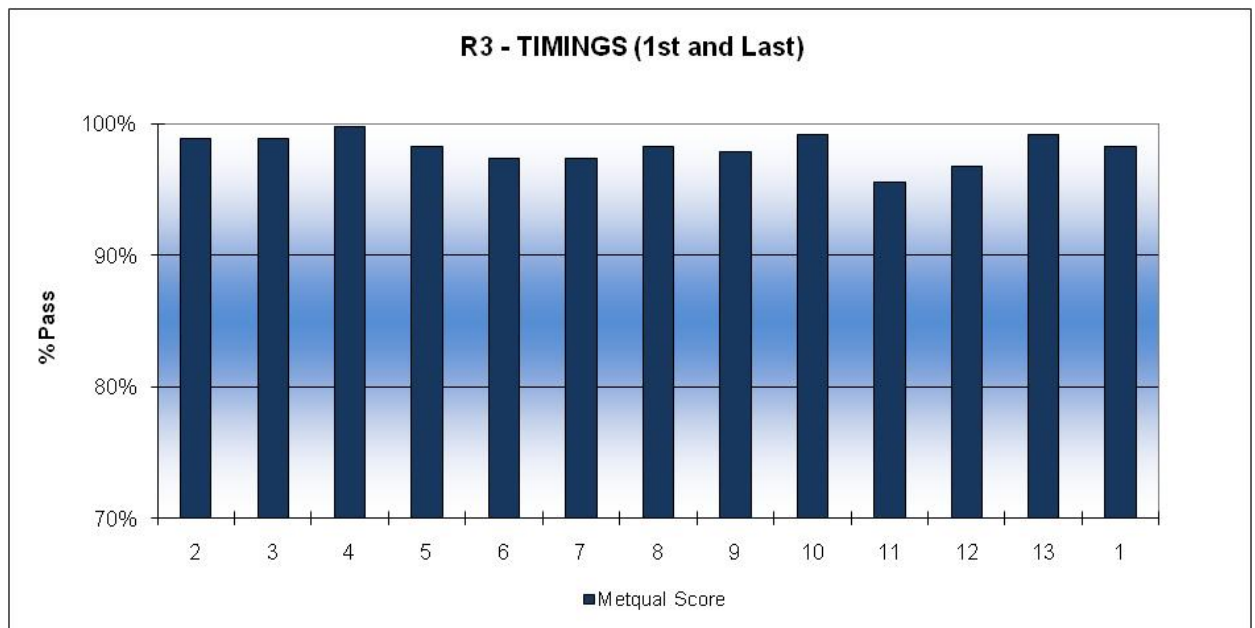
Chart 2D Period 1 – Vehicle availability in the morning peak (07:30hrs)



Capacity



Punctuality



Additional Performance Measures

	Period 11 - Percentage of trams in service and actual trams in service								
Time	Required trams in service	Week 1 % Achieved	Week 1 Actual No. trams Achieved	Week 2 % Achieved	Week 2 Actual No. trams Achieved	Week 3 % Achieved	Week 3 Actual No. trams Achieved	Week 4 % Achieved	Week 4 Actual No. trams Achieved
6:00-7:00	17	99.61	16.9	100	17	99.61	16.9	100	17.0
7:30-9:30	29	98.21	28.5	96.97	28.1	96.28	27.9	97.1	28.2
10-15:30	26	99.04	25.8	99.23	25.8	99.1	25.8	99.42	25.8
16-18:30	29	99.20	28.8	92.76	26.9	97.24	28.2	96.67	28.0
19-24	26	99.82	25.95	99.47	25.86	99.55	25.9	100	26.0

	Period 12- Percentage of trams in service and actual trams in service								
Time	Required trams in service	Week 1 % Achieved	Week 1 Actual No. trams Achieved	Week 2 % Achieved	Week 2 Actual No. trams Achieved	Week 3 % Achieved	Week 3 Actual No. trams Achieved	Week 4 % Achieved	Week 4 Actual No. trams Achieved
6:00-7:00	17	100.00	17	100.00	17	97.65	16.6	100.00	17
7:30-9:30	29	97.33	28.2	100.00	29	98.70	28.6	99.50	28.9
10-15:30	26	100.00	26	99.74	25.9	99.62	25.9	99.74	25.9
16-18:30	29	98.22	28.5	92.00	26.7	95.11	27.6	99.44	28.8
19-24	26	99.65	25.9	97.21	25.3	99.72	25.9	100.00	26

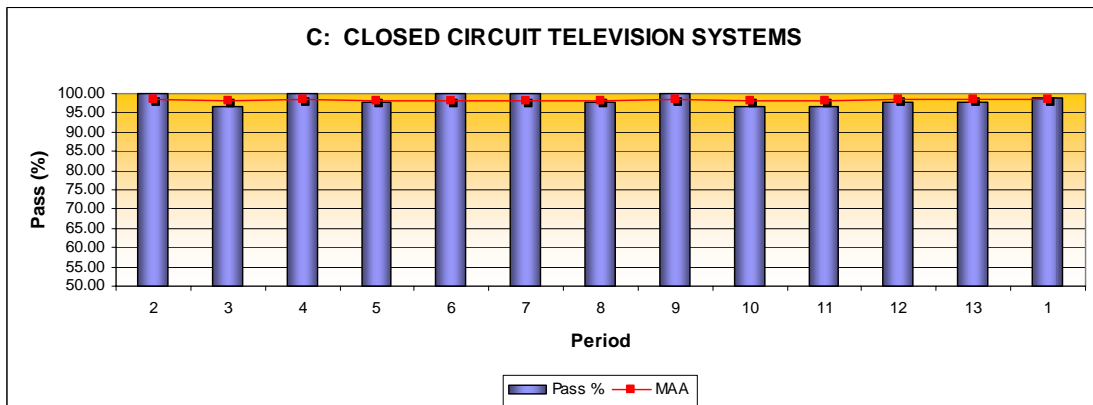
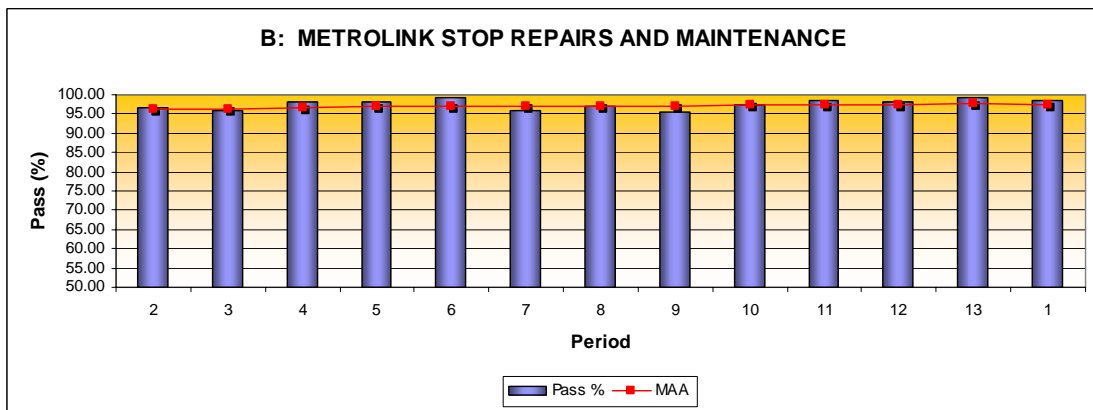
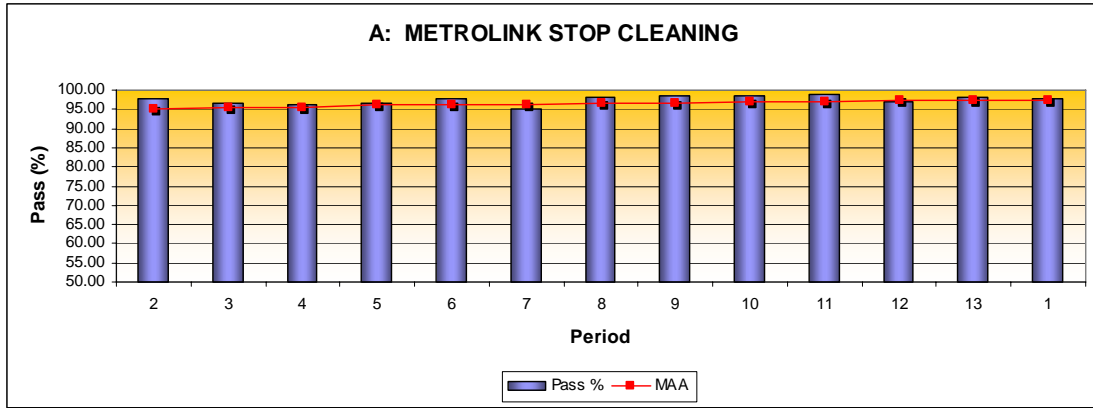
	Period 13 - Percentage of trams in service and actual trams in service								
Time	Required trams in service	Week 1 % Achieved	Week 1 Actual No. trams Achieved	Week 2 % Achieved	Week 2 Actual No. trams Achieved	Week 3 % Achieved	Week 3 Actual No. trams Achieved	Week 4 % Achieved	Week 4 Actual No. trams Achieved
6:00-7:00	17	100.00	17	100.00	17	99.61	16.9	100.00	17
7:30-9:30	29	98.43	28.5	99.87	29.0	100	29	100.00	29
10-15:30	26	99.87	25.97	100.00	26	99.74	25.9	100.00	26
16-18:30	29	98.00	28.42	99.89	28.97	100	29	99.89	28.9681
19-24	26	99.89	25.97	100.00	26	100	26	99.75	25.935

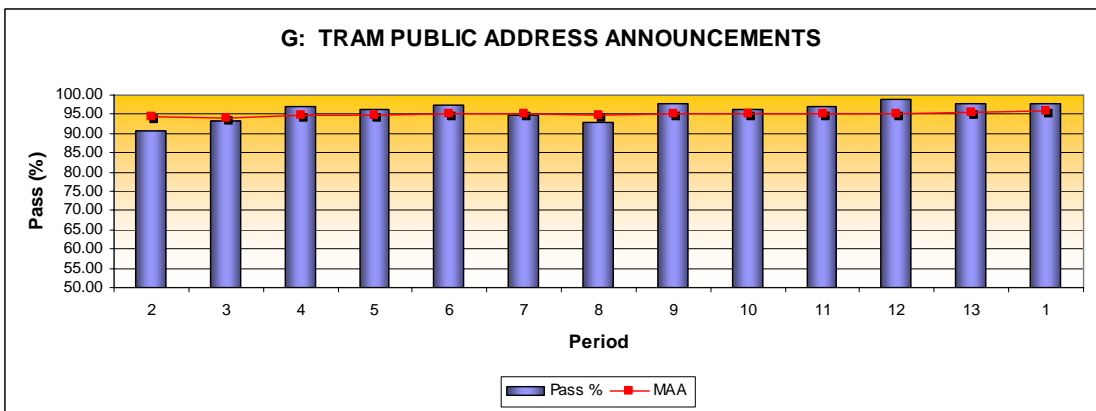
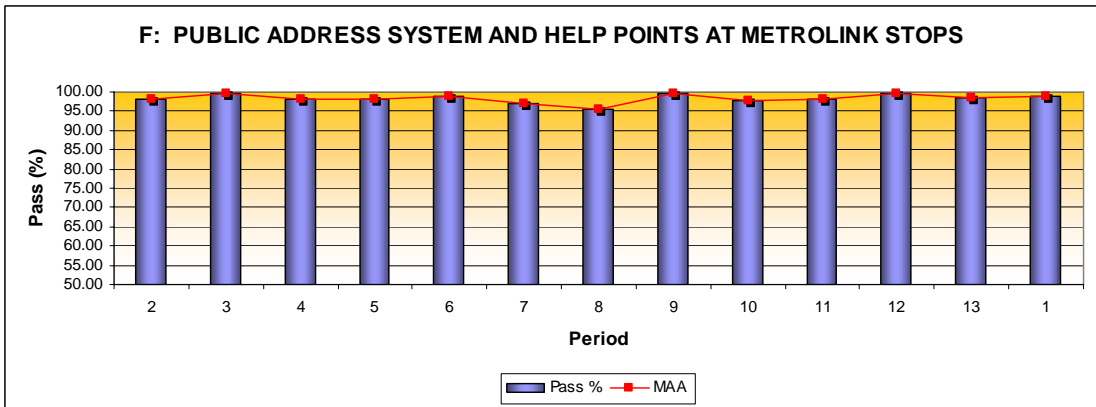
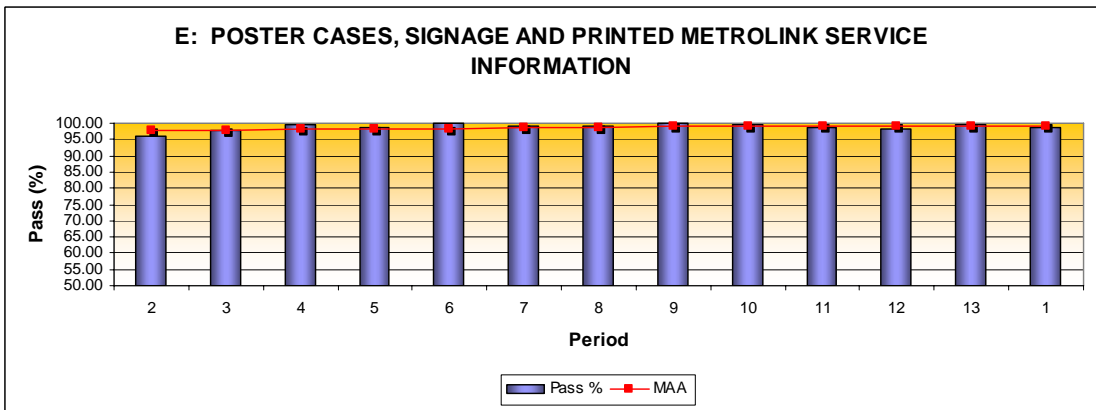
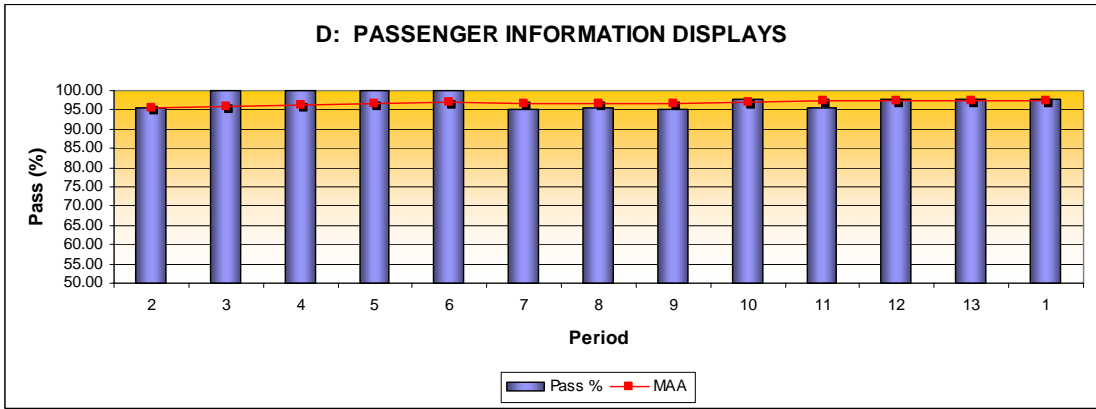
	Period 1 - Percentage of trams in service and actual trams in service								
Time	Required trams in service	Week 1 % Achieved	Week 1 Actual No. trams Achieved	Week 2 % Achieved	Week 2 Actual No. trams Achieved	Week 3 % Achieved	Week 3 Actual No. trams Achieved	Week 4 % Achieved	Week 4 Actual No. trams Achieved
6:00-7:00	17	100.00	17	99.61	16.9	99.61	16.9	100.00	17
7:30-9:30	29	100.00	29	100.00	29	99.61	28.9	99.33	28.8
10-15:30	26	99.42	25.8	99.87	25.97	99.87	25.97	100.00	26
16-18:30	29	99.67	28.9	98.89	28.7	95.78	27.8	100.00	29
19-24	26	99.82	25.95	99.93	25.98	98.34	25.6	100.00	26

All Schedules C - K	Period 11	MAA%	Period 12	MAA%	Period 13	MAA%	Period 1	MAA%
Sched C – CCTV	96.63	98.27	97.75	98.36	97.75	98.36	98.99	98.44
Sched D - Pass Information Screens	91.30	95.74	100.00	98.93	95.45	96.13	95.45	96.13
Sched E – Fares & Timetables	100.00	99.85	95.45	95.74	100.00	99.85	100.00	99.85
Sched E – Other Information	100.00	99.70	98.08	99.85	98.08	99.56	100.00	99.56
Sched E – Poster Cases	94.23	97.25	98.08	99.70	100.00	96.81	94.23	96.56
Sched E - TVM Information	100.00	100.00	94.23	96.81	100.00	100.00	100.00	100.00
Sched E - Stop Signing	100.00	98.22	100.00	98.37	100.00	98.52	100.00	98.52
Sched F – Operation PA System	92.31	95.97	98.08	96.41	94.23	96.12	96.15	95.97
Sched G - Tram P.A.	95.86	93.28	97.20	93.31	96.86	93.53	95.48	93.91
Sched H - Tram Dest. Displays	93.94	82.10	100.00	83.64	87.18	84.19	94.59	85.31
Sched I - Tram Cleaning Internal	92.43	85.75	82.05	85.16	85.76	85.02	85.13	85.15
Sched I - Tram Cleaning External	93.06	95.32	93.06	95.32	93.06	95.32	93.06	95.00
Sched J - Tram Saloon Environment	98.00	96.40	97.06	96.72	98.06	96.96	99.03	97.27
Sched K - Line of Route Info	100.00	100.00	99.00	99.92	98.10	97.06	99.78	99.55

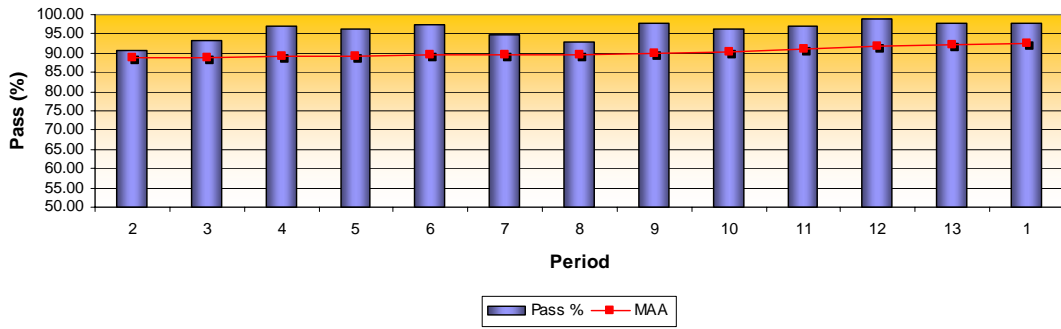
APPENDIX 4

METQUAL BY SCHEDULE:

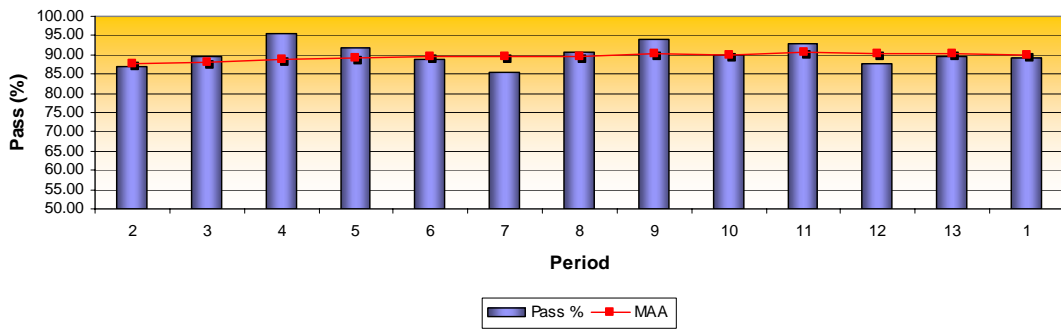




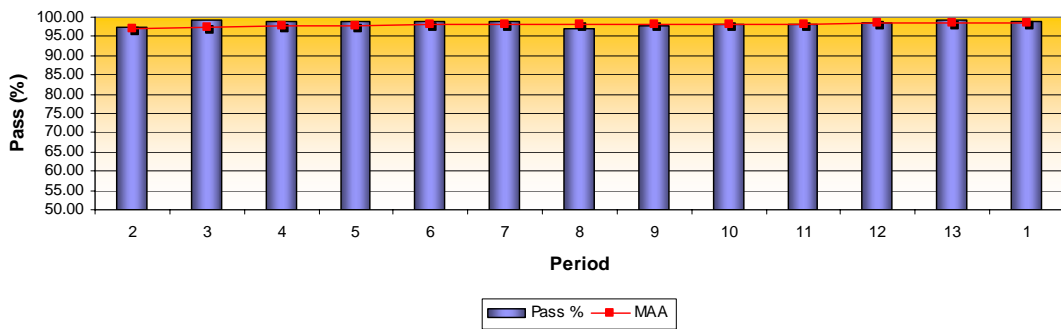
H: DESTINATION AND STOPPING PATTERN DISPLAYS ON TRAM



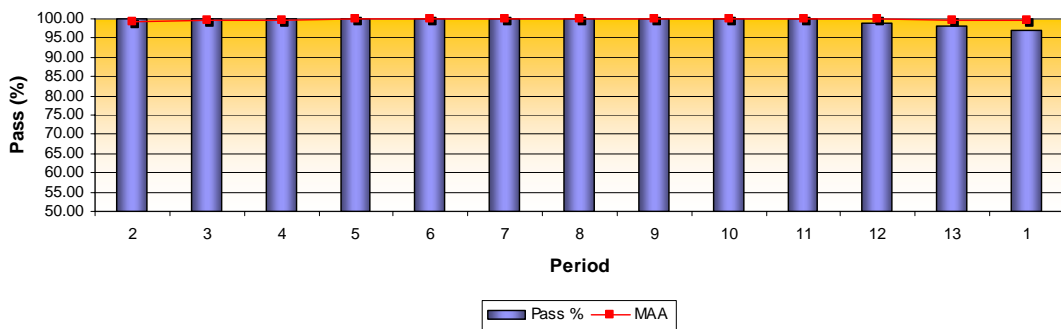
I: TRAM CLEANING



J: TRAM SALOON ENVIRONMENT



K: ON TRAM LINE OF ROUTE INFORMATION DISPLAYS



PERIOD SCHEDULE:

Period	Start Date	End Date
1	03 May 10	30 May 10
2	31 May 10	27 June 10
3	28 June 10	25 July 10
4	26 July 10	22 Aug 10
5	23 Aug 10	19 Sep 10
6	20 Sept 10	17 Oct 10
7	18 Oct 10	14 Oct 10
8	15 Nov 10	12 Dec 10
9	13 Dec 10	09 Jan 11
10	10 Jan 11	06 Feb 11
11	07 Feb 11	06 Mar 11
12	07 Mar 11	03 Apr 11
13	04 Apr 11	01 May 11