TRANSPORT FOR GREATER MANCHESTER COMMITTEE
REPORT FOR INFORMATION

Sub Committee: Bus Networks and TfGM Services
Date: 07 July 2017
Subject: Bus Network Performance 2016/17
Report of: Head of Bus

PURPOSE OF REPORT

To inform members of the observed performance of the Greater Manchester bus network in 2016/17 and compare it against the level achieved in 2015/16.

RECOMMENDATIONS

Members are asked to note:

i) the challenging operational conditions resulting from major infrastructure works, planned events and unplanned roadworks; and

ii) the high environmental standards of the bus fleet within Greater Manchester.

BACKGROUND DOCUMENTS

<table>
<thead>
<tr>
<th>Bus Network Performance 2016/17 Mid Year</th>
<th>20 January 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Network Performance 2015/16</td>
<td>8 July 2016</td>
</tr>
<tr>
<td>Bus Network Performance 2015/16 Mid Year</td>
<td>15 January 2016</td>
</tr>
</tbody>
</table>

CONTACT OFFICERS

<table>
<thead>
<tr>
<th>Steve Gilholme</th>
<th>0161 244 1675</th>
<th><a href="mailto:steve.gilholme@tfgm.com">steve.gilholme@tfgm.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Shier</td>
<td>0161 244 1684</td>
<td><a href="mailto:martin.shier@tfgm.com">martin.shier@tfgm.com</a></td>
</tr>
<tr>
<td>Rob Petch</td>
<td>0161 244 1159</td>
<td><a href="mailto:rob.petch@tfgm.com">rob.petch@tfgm.com</a></td>
</tr>
</tbody>
</table>
1. Background

1.1 According to passenger research, punctuality and reliability, as experienced by 201.6 million passengers in Greater Manchester (2016/17), are key service improvement priorities. The latest Transport Focus survey (Autumn 2016) indicated that within Greater Manchester, 83% of passengers are satisfied with their overall journey.

1.2 TfGM proactively works in partnership with the bus operators and highway authorities to identify performance issues and drive operational improvements on both commercial and tendered services. However, the scale and number of infrastructure works on radial routes and in the Regional Centre, particularly those in connection with the Bus Priority Package, Metrolink Second City Crossing and the Challenge Fund carriageway resurfacing works, caused significant operational challenges for bus operators during 2016/17.

1.3 The operational performance of the bus network is currently monitored through the Punctuality Reliability Monitoring System (PRMS) which has been in operation since 2009 and provides an influential evidence base on bus performance, particularly with respect to the A6 Quality Partnership Scheme, Bus Operators Code of Conduct (CoC) and Supplier Rating.

1.4 The development and implementation of the Optimised Public Transport Integration System (OPTIS), which incorporates direct feeds from the bus operators’ Automatic Vehicle Location (AVL) systems, will make available detailed and comprehensive real time performance information, including journey time profiles and variances. This level and quality of coverage is not currently available through PRMS.

2. Bus Network Performance

Introduction

2.1 This report presents network wide bus performance statistics for the Greater Manchester region and tracks performance levels against the CoC and Traffic Commissioner targets:

- Reliability - 97.0%;
- Regularity - 97.0%;
- Start-Point Punctuality - 90.0%; and
- Mid-Point Punctuality - 70.0%.

2.2 Figure 1 and Figure 2 summarises the network headline results for 2016/17 split between those registered to adhere to a timetable with specific
departure times (scheduled services) and those registered to operate six
buses an hour or more, with the associated timetable stating the service
frequency (frequent services).

2.3 In considering the observed bus fleet, performance in terms of vehicle age
and engine emission standards is outlined in Figure 1 and Figure 2 and is
assessed based on observations of both frequent and scheduled services.

2.4 A Glossary of Terms is provided in Appendix One.

Figure 1: Network Performance 2016/17

<table>
<thead>
<tr>
<th>Measure</th>
<th>Minimum Standard</th>
<th>No. Obs.</th>
<th>Network Average</th>
<th>Change from 2015/16</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled Service Performance (last 12 months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>97.0%</td>
<td>79,666</td>
<td>98.1%</td>
<td>0.18%</td>
<td>Improving</td>
</tr>
<tr>
<td>Start Point Punctuality</td>
<td>90.0%</td>
<td>38,314</td>
<td>89.0%</td>
<td>0.14%</td>
<td>Stable</td>
</tr>
<tr>
<td>Mid-Point Punctuality</td>
<td>70.0%</td>
<td>41,352</td>
<td>78.6%</td>
<td>0.99%</td>
<td>Improving</td>
</tr>
<tr>
<td>Overall Punctuality</td>
<td>80.0%</td>
<td>79,666</td>
<td>83.8%</td>
<td>0.57%</td>
<td>Improving</td>
</tr>
<tr>
<td>Frequent Service Performance (last 12 months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regularity</td>
<td>97.0%</td>
<td>31,477</td>
<td>95.2%</td>
<td>-0.12%</td>
<td>Declining</td>
</tr>
<tr>
<td>All Service Vehicle Quality (most recent quarter)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euro IV +</td>
<td></td>
<td></td>
<td>85.4%</td>
<td>5.70%</td>
<td>Improving</td>
</tr>
<tr>
<td>Hybrid Diesel</td>
<td></td>
<td></td>
<td>16.1%</td>
<td>-2.94%</td>
<td>Declining</td>
</tr>
<tr>
<td>Euro VI</td>
<td></td>
<td>27,562</td>
<td>18.1%</td>
<td>5.75%</td>
<td>Improving</td>
</tr>
<tr>
<td>Age (Yrs)</td>
<td></td>
<td></td>
<td>7.1</td>
<td>0.3</td>
<td>Stable</td>
</tr>
</tbody>
</table>

1 Reliability/Regularity:<0.1% Stable >0.1%; Punctuality:<0.2% Stable >0.2%; Emissions:<0.5% Stable >0.5%; Vehicle Age:<0.5yr Stable >0.5yr
2 Merseyside - 84%, West Midlands - 79%, West Yorkshire - 83%, Lancashire - 79% (2015/16) : Department for Transport Table BUS0902

Scheduled Service Performance

2.5 The reliability of scheduled services (Figure 1 and Figure 2) at the network
level has improved to 98.1% from 97.9% in 2015/16, but is noticeably lower
than the level achieved in 2014/15 (98.5%). However, the latest network
reliability figure continues to operate above the Code of Conduct minimum
standard (97%).

2.6 Start-point punctuality of scheduled services is an area where TfGM has
sought more action on the part of operators, as it is incumbent on them to
provide reasonable recovery time and develop contingency plans to enable
journeys to start punctually. Traffic congestion in the Regional Centre has
impacted on the ability of operators to increase recovery times – particularly
given the limited space available for vehicle layover – while work continues to develop and better utilise AVL data for service planning.
2.7 The 2016/17 network level performance for start-point punctuality was observed at 89.0% (Figure 1 and Figure 2), just under the Code of Conduct minimum standard (90%), but remaining relatively stable when compared with performance level in 2015/16 (88.9%). The scale and intensity of the infrastructure works in the Regional Centre and on key radial corridors, combined with the level of planned and unplanned roadworks, has directly impacted on operator performance during 2016/17. The majority of these works have however been completed as at the end of April 2017 and it is anticipated that the impacts going into the 2017/18 year will be reduced.

2.8 Mid-point punctuality of scheduled services is an area where TfGM anticipates action from both bus operators, highway authorities and other stakeholders who have an influence over the management of the local and strategic road network.

2.9 At the network level (Figure 1 and Figure 2) the mid-point punctuality of scheduled services has significantly increased to 78.6% (2016/17) from 77.6% (2015/16). Observed network performance is over eight percentage points higher than the Traffic Commissioner’s minimum standard (70%) despite the difficult operating environment, particularly within the Regional Centre. However, it is also worth noting that bus departure levels in Greater Manchester have declined in recent times, from 150,601 weekly bus departures (Jan 15) to 140,858 (May 17), reflecting reduced frequencies and increased timetabled resource on a number of services.

*Figure 2: Network Service Performance 2016/17*
Operator Code of Conduct

2.10 The Bus Operators Code of Conduct (CoC) membership comprises Arriva, First Manchester, Jim Stones Travel, Rossendale Transport, Stagecoach Manchester and Transdev (87.4% of network mileage - Mar 17). The collective performance of the Code operators exceeds the desired performance targets for both reliability and mid-point punctuality, although start-point punctuality is below the required standard (88.9% 2016/17). The quality of the fleet has continued to improve with the percentage of Euro IV+ vehicles (86.5%, 2016/17) exceeding the network average (85.4% 2016/17).

Frequent Services

2.11 In the case of frequent services, the key issue for passengers is not the adherence to a specific set of timetabled departures, but the regularity of the service compared to their expectations. Performance is measured at intermediate timing points of a journey therefore this is another area where the CoC has acknowledged there may be a need for highways management interventions to achieve the minimum standards.

2.12 Network mid-point regularity performance (Figure 1 and Figure 2) for 2016/17 Year End was 95.2%, which has declined from the performance level achieved in 2015/16 (95.3%), and continues to be below the CoC minimum standard (97%).

2.13 The level of performance of frequent services needs to be appreciated, against the underlying picture of a number of corridors disrupted by major roadworks and events during 2016/17 including construction activity associated with the Bus Priority Package, Metrolink Second City Crossing and the Challenge Fund carriageway resurfacing works. The network level regularity figure masks some significant improvements and operator actions that have been tracked at a corridor level.

3. Fleet Profiles

3.1 The observed\(^1\) bus fleet performance in terms of vehicle age and engine emission standards are presented in Figure 1 and Figure 3.

3.2 The bus fleet profile within Greater Manchester has continued to improve, with an increased deployment of low emission vehicles on key service routes. Although the proportion of hybrid diesel-electric vehicles observed has declined between 2016/17 (16.1%) and 2015/16 (19.0%), the proportion of Euro VI has continued to improve and now stands at 18.1% (2016/17). As of Mar 17, there were 378 low-carbon emission vehicles in

---

\(^1\) The observed fleet profile differs from the registered fleet profile, since the former monitors what is deployed as opposed to what is registered. Therefore, the results present a natural bias to what is observed on the busier corridors of Greater Manchester. It provides a more customer and environmental focussed picture of the impact fleet management activity has on the customer experience and vehicle emissions across the City Region.
the Greater Manchester bus fleet, of which TfGM owns 150 (109 low-carbon emission and 41 exhaust retrofit vehicles). The equivalent bus fleet statistics for London, as of January 2017 are 5.7years (Age) and 25.0% (Hybrid).

**Figure 3: Fleet Profile (2016/17)**

3.3 Further improvement in the emissions standards of the Greater Manchester bus fleet is set to continue given the proposed vehicle investment for 2017 by large sized operators, particularly Stagecoach Manchester. The level of fleet investment by Arriva, First Manchester and Stagecoach is outlined in Figure 4.

**Figure 4: Fleet Investment by the Top Three Bus Operators**

<table>
<thead>
<tr>
<th>Fleet Size (2017) – Large Operators</th>
<th>No. of New Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>1761</td>
<td>161</td>
</tr>
</tbody>
</table>

3.4 The average age of the Greater Manchester bus fleet was observed at 7.1 years (2016/17), which is fractionally higher than the age profile (6.8years) recorded in 2015/16, but does compare favourably with 7.6 years for local bus services in England (2015/16)\(^2\). All vehicles observed through PRMS are low floor accessible and therefore meet the accessibility standards specified by the Public Service Vehicle Accessibility Regulations.

---

\(^2\) Annual Bus Statistics 2015/16 (Department for Transport)
4. **Bus Operator and District Engagement Update**

4.1 The scale and number of infrastructure works on radial routes and in the Regional Centre, particularly those in connection with the Bus Priority Package, Metrolink Second City Crossing and the Challenge Fund carriageway resurfacing works, caused significant operational challenges for bus operators during 2016/17.

4.2 For the 2016/17 period, 78,437 roadworks\(^3\) were registered through the Greater Manchester Road Activity Permit System representing a 58.1% increase from the level recorded in 2015/16 (49,613). A significant proportion of the works were apparently relating to immediate emergency works (19,597; 25.0%). An overview of bus service punctuality performance at the district level is provided in Figure 5.

*Figure 5: District Performance - 2016/17 Vs 2015/16*

\(^3\) Information provided by the Greater Manchester Road Access Permit department

4.3 The impact of the Regional Centre and Bus Priority Package infrastructure works was mitigated where possible by on-going dialogue with bus operators through the Regional Centre Traffic Management Group. The Second City Crossing and Regional Centre bus routes works were finished...
in January 2017, after which bus performance on the affected routes improved significantly. Work on Oxford Road (Greater Manchester's busiest bus route) continued until May 2017. These works resulted in significant delays to bus operations with significant amounts of additional bus resources being utilised to maintain published timetables.

4.4 Other key roadworks on radial routes have included Challenge Fund resurfacing works along lengths of the A6 Stockport Road and A57 Hyde Road in Manchester. Where possible works have been undertaken during the off peak period; nevertheless there has been a significant impact upon bus operations. Given the impact of the works on the key radial routes, the Regional Centre Co-ordination Group’s role has been extended to cover those corridors. The group seeks to co-ordinate and minimise the impact of works and provide early notification wherever possible.

4.5 In addition all bus operators receive a daily email, automatically generated from the GMRAPS system, which details unique roadworks information relating to their bus service network. Bus performance in the Regional Centre is also often impacted by the number of events that often result in road closures and associated delays.

5. Conclusions

5.1 The results for the 2016/17 period continue to highlight the high service performance standards achieved by the Greater Manchester bus network despite the challenging operating conditions. Both network reliability (98.1%) and mid-point punctuality (78.6%) performance have improved and exceed the Code of Conduct minimum standards. Start-point punctuality has stabilised at 89.0%, just short of the Code of Conduct threshold (90%).

5.2 The environmental standards of the Greater Manchester bus fleet have continued to improve with the proportion of Euro IV or above standing at 85.4% (2016/17) and hybrid vehicles at 16.1%. The proportion of the fleet which is classified as Euro VI has increased significantly to 18.1% and is principally supported by the continued investment in the fleet by Stagecoach Manchester.
6. **Recommendations**

6.1 Recommendations are set out at the front of this report.

Howard Hartley  
Head of Bus
Appendix 1: Glossary of Terms & Data Sources

- **Scheduled Service**: Defined as those services timetabled by a bus company (both commercial and those supported by TfGM).

- **Frequent Service**: Defined in the Local Bus Service Registration documentation as 6 or more buses per hour.

- **Code of Conduct**: The Code of Conduct, developed in conjunction with Greater Manchester Bus Operators’ Association (GMBOA), represents a Voluntary Partnership Agreement, which outlines the joint undertakings made by TfGM and Bus Operators to deliver continuous improvement across Greater Manchester Bus Network in relation to punctuality, reliability and vehicle standards. Current Code of Conduct members are Arriva, First Manchester, Jim Stones, Rosso, Stagecoach and Transdev.

- **Scheduled Service Reliability**: Measured by percentage of observed bus departures from a given location compared to the service provision promised to the public.

- **Scheduled Service Punctuality (Start & Mid)**: Measured by percentage of ‘on-time’ observed bus departures from a given location. The definition of an ‘On-time’ departure is one which is between 60 seconds early and 5 minutes and 59 seconds late, inclusive. Punctuality can be measured at the start of a journey or at the middle of a journey. Overall punctuality represents a simple average between start and mid-point punctuality, in line with NI178 guidelines.

- **Frequent Service Regularity**: Measured either by percentage of occasions where the gap between services is over 2 times the service headway, or 10 minutes, whichever is the larger number. Service Regularity encapsulates both the reliability and punctuality aspect of a frequent service.

- **Engine emission standards**: Based on the minimum requirement at the vehicle registration date. The emission standards are defined by European Union directives. Euro IV engine standards came into force on 1/10/2005. Hybrid electric bus combines a conventional internal combustion engine with an electric propulsion system.

- **Vehicle Age**: Based on the difference between the vehicle registration date and survey date.