



Case study

Name: First Bus UK

Sector: Site/Depot Based
Maintenance

Location: The Midlands & Essex

Driving Engineering Performance across the Midlands and Essex for First Bus UK

First Group is an international transport group, based in Aberdeen, Scotland. The group originated from the deregulation of bus services in the UK in 1986. The company provides transport services in the UK, Ireland, Canada and the United States and employs more than 100,000 people with £7.8 billion revenue generated in 2020.

Following an implementation of Infor EAM in the US, First Bus UK had started a project to modernise its IT for over 2000 users across its bus depots. This digitalisation project was designed to drive efficiency and boost the customer experience. The solution aimed to maximise time in service and visibility of the fleet while minimising costs, moving away from the legacy paper-based maintenance system in place. Planned to take 18 months, implementation was in its early days at the start of our engagement.

The depots across the UK differ in size, with fleets varying between 50 to over 200 vehicles. Each depot typically has an Engineering Manager, a Workshop Manager, 2-4 supervisors and 1-2 storekeepers. There is then a blend of around 20-30 operatives maintaining the vehicles, with the vast majority of the operatives being certified skilled staff as opposed to semi-skilled.

Key challenges

- There was a need to ensure that the depots were working in a consistent manner to enable processes to be defined for the digital implementation
- There was a need to define workflows and responsibilities for the new system
- There was a requirement to ensure that new system aligned with management roles
- Management responsibilities at each level needed to be clearly defined
- A planning methodology which supported digital need to be implemented
- Desire to deliver a reliable service to passengers in a cost effective manner

Key gains

- An operation fit for both the digital implementation and the introduction of electric buses
- Reduced lost mileage across the fleet
- Increased on-time departures
- Increased servicing compliance
- Reduced breakdowns and engineering interventions
- Reduced repeat defects as a percentage of overall defects

Background

As a first step, Managementors undertook an analysis of West Yorkshire and Midlands depots during the first half of 2021, the findings of which showed that whilst performance was by and large good there were still opportunities for improvement. Key areas to address were the adoption of the Engineering Management System (EMS) which had been implemented during the COVID crisis, resulting in varying approaches to the planning of workloads and resource which would need to be aligned with the digital workflow. In addition, variations in the way that the supervisor role was carried out meant they often spent significant time carrying out administrative tasks, rather than actively managing their teams.

Following on from the analysis, Managementors proposed a performance improvement project together with First Bus UK, with a 16-week pilot phase in 2 operating companies (Midlands and Essex), followed by a rollout to the remaining operating companies once the pilot had demonstrated successful outcomes. The project was managed by a Senior Project Manager from Managementors who, together with key staff, developed, implemented and supported the solution, ensuring the project objectives were delivered on time. Timescales were aligned with the Infor implementation to ensure that maximum benefits were achieved from this, with the first phases being completed before the desktop Infor implementation.

The key objective of the pilot project was to transform the performance of depots by changing management behaviours from a passive to an active style. This would be instrumental in improving the performance of the Midlands and Essex engineering teams, enabling them to deliver a more reliable fleet of buses.

The project aimed to increase the performance of the depots through improving processes and the existing Management Operating System (MOS), and refining managerial roles and behaviours as required. This would underpin the benefits envisaged from the Infor implementation and support the benefits obtained from earlier initiatives, such as the Engineering Management System (EMS).



“*That challenge of ideas and being able to debate and discuss the optimal way of achieving our aims has been great. Only when these opportunities arise does it give you the motivation to really do some soul searching and ask the hard-hitting questions.*”

James Blackshaw,
Head of Engineering Quality and Efficiency

The Challenge

The background to the engagement was such that the current SAP system was out-of-date and due to be switched off, to be replaced with Infor EAM. A number of initiatives had been carried out over the past few years with Infor being the final piece of the puzzle – it needed to land effectively to support earlier initiatives.

The initial implementations of Infor had taken place during the COVID lockdown with varying results and there was a requirement to understand what was needed to rectify this. There was a view that performance challenges in the depots were caused by a shortage of engineers – this was believed to be leading to further staff losses and reductions in maintenance quality.

The post COVID landscape and ‘Stay at Home’ message meant there was significant pressure on First Bus to deliver an effective bus service against the pressures of reduced fare revenue and significant labour shortages.

First Bus continued to run buses throughout the crisis with support from the Government to make up the shortfall in passenger revenue. The post COVID recovery saw a requirement for them to address how to cope with changing working patterns, resource shortages and a move towards electric buses as part of the Government’s decarbonisation strategy.





Prior to the crisis, First Bus had started a number of initiatives designed to address behaviours and processes in bus depots which had remained largely unchanged for some years. A revised Engineering Management System was implemented to drive engineering performance improvements in the depots and a new asset management system had been purchased to provide greater insight into bus performance and replace a legacy system which was coming to the end of its life.

The pandemic meant that a lot of these changes had to be implemented remotely and, as a consequence, there were varying levels of adoption and some issues which needed to be resolved. Additionally, the new challenges which had arisen since the programmes commenced meant that a change of emphasis was required.

Management was asked to carry out a review of the situation to understand what work was required to ensure the successful adoption of the digital solution and to standardise ways of working across the depots.

It became apparent that there were opportunities to improve performance within the engineering function. Engineers prioritised making vehicles fit for service and treating the symptom of the issue, rather than identifying and driving out the root cause of issues. Whilst this ensured that service was delivered to customers in the short term, it ultimately affected overall reliability and performance and created unnecessary rework. Difficulties in obtaining parts meant that they were frequently swapped between buses, ultimately creating additional work and distorting data about where the fault originally lay. Inspections were carried out to differing standards, with multiple people performing duplicate checks as a safety net. Legacy work planning systems meant that engineers often chose their own work, or had to wait for other engineers to finish their work so they could access the vehicle.

For similar reasons the majority of management time was spent performing administrative tasks. Supervisors were focused more on closing tickets and checking paperwork was completed and signed-off, rather than on checking the progress and quality of the work. The roles and responsibilities of supervisors often lacked clarity and in order to ensure a timely service they spent a lot of their time dealing with the crisis in front of them rather than thinking in the longer term as a result, supervisors often struggled to understand where their priorities should be. Sometimes quality control mechanisms, such as audits, which were focused on ensuring compliance, missed opportunities to also improve quality.

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“Consistency of applying process was probably our biggest challenge”.

James Blackshaw,
Head of Engineering Quality and Efficiency”

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The existing process for maintaining buses was relatively straightforward, however the mixture of buses in the fleet and supervisory inconsistencies often led to delays and rework, whilst teething issues with the IT solution were resulting in unreliable data. A paper based system meant that there were information gaps throughout the process, particularly following inspections and, consequently, time was lost by those carrying out the arising works, through a requirement to re-diagnose the specifics of a fault.

The existing Management Operating System (MOS) had some room for improvement. In some areas certain elements were not well understood, joined up or used effectively, largely as a result of an inconsistent implementation approach which had been impacted by the COVID crisis.

Within the depots, targets were based on ensuring that the bus timetable was maintained, with on-time bus departure from the depot a key metric. The focus on this resulted in a great deal of remedial work each morning to ensure the buses left the depot to schedule, rather than spending time resolving the cause of repeat defects. This often had knock-on effects throughout the day on the work that had been planned.

There was recognition within the business that there were weaknesses and inefficiencies which could be addressed if the IT implementation and managerial roles could be aligned with more streamlined processes.

By refining the processes, a step change in performance could be made which would address some of the issues that had arisen since the project inception.



Our Approach & Outcomes

Projects that involve changes to the way operations normally function can be taxing from both a technical and tactical standpoint. The start of the project involved identifying those who would be impacted, and briefing them as to what would be happening, why this was necessary and how this would affect them in their roles. This involvement was the first step towards ensuring that a high degree of commitment and ownership would be achieved throughout the project. A kick-off meeting was conducted with senior stakeholders to introduce the project and agree the roles that people would play. Following this, roll-down meetings were conducted within each of the 7 depots with the Engineering Manager, Workshop Manager and Supervisors. This provided an opportunity to introduce the team to the project and start to discuss some of the issues they were keen for the project to address. Alongside the roll-down meetings, a meeting was held with senior digitisation programme stakeholders to better understand it, and align the Management's project with the overall programme.

At the start of the project, a programme of quick win activities was developed and implemented within the first of the Midlands depots. These activities were aimed at driving action and providing focus; thereby giving momentum to the project and demonstrating that change could and would happen.

The need for **issue capture and resolution** to drive continuous improvement was a focus throughout the project. Training was provided to the management teams to reinforce the importance of root cause issue capture and a whiteboard on the shop floor was used to record daily issues. The logging of actions was reintroduced, with clear ownership and dates for resolution recorded. Further coaching was provided on what supervisors should focus on whilst reviewing performance and how issues could and should be identified and captured during these times. A significant number of operational issues were raised from the shop floor, building support for the change programme and making immediate improvements to performance.


An improved **review structure** was developed and implemented, consisting initially of enhanced shift handovers between supervisors and a weekly review meeting between the Engineering Manager and Engineering Supervisors. This was further developed into a multilayer review structure, with issues being actioned at the correct level or escalated if appropriate, along with a suite of performance metrics which gave insight into both bus and engineer performance on a daily basis.

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“The weekly review format is really good. The Engineering Managers come armed with actions, because they know that I’ve already reviewed their performance and that I’m going to be asking questions – it really builds on the meetings that were already in place. The breakdown tracker is great and gives us visibility we hadn’t had before, repeat breakdowns.”

Carl Woolley,
Engineering Director – Midlands & South Yorkshire

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At the start of the project there was limited data with which to understand performance as a result of system limitations. Existing **KPIs**, based around vehicle availability and lost mileage, did not identify some underlying issues, with a number of defects not being captured or recorded. A solution was devised whereby existing processes would be reinstated and enforced, whilst a parallel process was implemented to prepare the ground for the IT implementation.

Activity lists were used to uncover how the Engineering Manager, Workshop Manager/Planner, Supervisors and the Engineering admin support spent their time. These were reviewed with the individuals and selected tasks were redistributed to align with new workflows. The outputs formed the basis of Supervisor **standard days**, which provide more structure to the working day and, as a consequence, enable supervisors to be more proactive with their time.

Additionally, training and coaching in active supervision, along with more effective shift briefings, ensured that correct standards were achieved throughout the day.

There was a focus on reducing the number of repeat defects and creating visibility of when and where these occurred. **A breakdown tracking tool** was developed and a new process implemented, whereby the breakdown data was captured electronically and repeat defects automatically flagged. Several initiatives were put in place to address the underlying causes of these defects and processes were developed to deal with issues. As a result of these initiatives, the number of repeat defects and overall number of defects was significantly reduced.

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“Introducing the breakdown tracker has been great, we’ve been missing out on so much valuable information and this allows me to keep driving down the numbers of interventions.”

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James Ardley,
Engineering Manager – Leicester

Improvements were introduced to ensure that the Engineering and Operations parts of the business worked in a more co-ordinated manner with a focus on jointly delivering a service to passengers. This enhancement in communication and cooperation between the departments led to a marked improvement in morning runout and eased the introduction of other joint initiatives throughout the project.

As part of the project, the IT implementation in the Midlands was supported in order to ensure that it delivered the information required to give insight into bus condition and help to drive required changes. Learnings from the actual usage were fed back to the **Infor implementation programme** in an effort to improve future rollouts. The new Management Operating System (MOS), processes and structure were developed to support the implementation of Infor and help deliver the benefits enabled by its use. In the Midlands the administrative burden on the management team was relieved by allocating some of the workload to the depot administration resource, allowing them to spend more time supervising their engineers.

Development of the skills of the management layers was a key focus and took place throughout the life of the project. Development objectives were captured for the target audience, ensuring there was a focus on helping them achieve what was important to them. One-to-one, 'on the floor' coaching was provided to support the planning, monitoring and delivery of work, as they carried out the day-to-day requirements of their job. A number of workshops were designed and delivered to the management team to accelerate their understanding of the project, along with the active management principles required to be employed in order to ensure its success.

By the end of the project there was a marked improvement in the performance of the management layers in the depots. By taking action on issues as they arose, the engineering teams moved from a reactive to a proactive way of working giving the operations teams, and ultimately passengers, a more reliable fleet of buses. Key metrics and active supervision ensured that work was carried out where it was most needed in a timely manner, reducing the need for last minute interventions in the morning peak.

There was also a clear roadmap developed for the IT implementation, with a number of blockers seen in previous phases identified, and clear workflows put in place to ensure that full value would be gained from Infor.

James concluded "We definitely achieved everything that we set out to in the objectives – we have improved service delivery for our customers, enhanced our consistency of process, transformed communication and improved the overall efficiency of our operation."



Contact us to find out what Managementors can do for you

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