



Barbados Audit Office

Special Audit of the Transport Board



Strengthening public accountability by providing fair and independent reports

Barbados Audit Office



SPECIAL AUDIT OF THE TRANSPORT BOARD

MISSION STATEMENT

The Mission of the Audit Office is to strengthen public accountability by providing fair and independent reports after careful examination of accounting records and use of resources.

THE GOAL

The goal of the Audit Office is to promote staff development, achieve a high standard of auditing and contribute to the general efficiency and effectiveness of the Public Service.



Barbados

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June 06, 2019

His Honour Arthur E. Holder, LL.B
Speaker of the House
The House of Assembly
Parliament Building
BRIDGETOWN

Sir,

I have the honour of submitting to you for laying before the House of Assembly in accordance with Section 38 (2) and Section 38 (5) of the Financial Management and Audit Act, 2007 – 11, a Special Report on the Transport Board.

Yours faithfully,

Leigh. Trotman, CPA

Auditor General

Acknowledgement and Appreciation

1. The Auditor General gratefully acknowledges the kind assistance and cooperation given to personnel of the Auditor General's Office during the conduct of this Audit by:-

- The General Manager (Ag) and staff of the Transport Board

2. Sincere appreciation is also extended to the officers of the Audit Office whose efforts contributed to the successful completion of this assignment.

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Special Audit of the Transport Board

EXECUTIVE SUMMARY

The Transport Board (the Board) was established by an Act of Parliament on the 24th August, 1955. The operations of the Board are governed by the Transport Board Act, Cap 297; Road Traffic Act, Cap 295; the Transport Authority Act, Cap 295A; and the related legislation. The organisation is governed by a Board of Directors that directs the affairs of the Board and provides the necessary governance. The day-to-day activities are managed by the General Manager and staff. At the 31st January 2019, the total staff complement was five hundred and thirty-seven (537).

2. The operations of the Board are financed mainly from bus fares, charter services, subsidies obtained from Government and an overdraft facility which had an outstanding balance of \$10.14 million at 31st March, 2018. The unaudited financial information for the year, April 2017 to March 2018, shows that the Transport Board's total expenditure was \$74.58 million. Revenue was shown as \$42.6 million, inclusive of \$15.5 million in Government subsidies.

3. The audit was conducted to determine the factors which prevented the Board from providing a reliable service to commuters, and to examine what actions have been taken to improve operations. The review focused mainly on the activities of the Board for the period April 2015 to June 2018.

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FINDINGS

4. The Audit found that due to a number of factors, including inadequate financial resources, the Board has not been able to maintain an adequate number of functional buses. This number has declined, to the extent that there are not enough to service the routes operated by the organisation, resulting in lengthy wait times for commuters. This has also resulted in a situation where there is a surplus of operators in relation to the number of available buses. The Board therefore had to adjust its workforce and operations.

Bus Availability

5. Information provided by the Board shows that the average monthly bus availability has declined from one hundred and sixty three (163) in April 2015 to fifty (50) in February 2019. These numbers were below the peak vehicle number of one hundred and seventy-eight (178), that the Board indicated was required to service the established schedules during the in-school periods. Even in a restructured entity, which is currently being considered, availability of buses will be important to providing a reliable service, and thus this matter should be given high priority.

6. The shortage of buses has had a negative impact on the deployment of resources, as on a daily basis some operators¹ are unable to carry out their assigned duties because of the unavailability of buses. These operators still have to be paid, resulting in an inefficient use of resources.

¹ Operators refer to bus drivers

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Financing

7. The audit revealed that the Board had serious financial difficulties and relied for its continued operations, in part, on large subsidies from Government, which, according to the Ministry of Transport, Works and Maintenance's accounting records, totalled approximately \$206 million during the period April 2013 to March 2018. The Board was utilising these subsidies to fund more than a third of its annual expenditure.

8. The Board's revenues that are directly obtained from its bus operations (fares, scenic rides and tours, and charters) have been declining, with a \$15.59 million reduction for the financial year ending March 2018, when compared to March 2014. Total revenue (excluding subsidies from Government) was only able to cover thirty-six percent (36%) of the expenses for the financial year ended March 2018. This imbalance would have contributed to cash flow problems. To assist in its operations, the Board has been utilising an overdraft facility, which had an outstanding balance of \$10.14 million at March 2018.

Impact of Inadequate Financial Resources

9. The financial problems at the Transport Board have affected its operational efficiency, for example in relation to the timely purchasing of parts. The unavailability of parts has contributed to the Board not being able to repair the buses in a timely manner, thus impacting the number of buses available to service the public.

Measures to Improve Efficiencies

10. In 2014, the Board instituted two (2) measures, namely, the retrenchment of workers in March and the rescheduling of routes in June. A comparison of the total expenditure at March 2014 and March 2015 for Salaries, Wages and Allowances; Bus Maintenance and Diesel shows that there was a total reduction in expenditure of \$10.21 million. However, any benefits from these measures would have been counteracted by

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severance payments of \$5.84 million in the first year after the measures were instituted, and a reduction of \$4.78 million in revenue from fares.

11. In March 2016, the Board recruited a Management Consultant. One of the objectives was to increase the fleet availability to a minimum of two hundred (200) buses by November 2016. The General Manager said that this objective was not achieved because of the unavailability of funds to purchase urgently needed parts, and the suspension of activity on the Board's accounts by some main creditors. Information on the bus availability provided to the Audit confirmed the non-achievement of this objective.

Factors Impacting Revenue

12. Bus availability has been declining and there is increased competition from the private sector buses and increased use of personally owned vehicles by commuters. These factors have severely constrained opportunities for revenue enhancement. In addition, the Board has no control over the setting of bus fares which are its main source of revenue from operations, which had not been increased for a number of years.

13. The Board is further disadvantaged as it competes with private operators who are not restricted by structured schedules. It has been observed, especially during off peak periods, that the private operators ensure that they are a few minutes ahead of the scheduled Transport Board service in order to collect as many passengers as possible. This issue of competition on the routes between the buses of the Board and private operators needs to be addressed going forward, so that there can be a more efficient use of resources by all concern.

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Route Rationalisation

14. A route rationalisation, which is the adjustment of bus schedules, was carried out in 2014. Such adjustments are important, and will be required given the Board's current status, since information provided by the Board shows that the number of passengers transported by the Board has declined by 7.8 million, in aggregate, over the four year period, April 2014 to March 2018.

Frequent Repairs

15. It was observed that there were frequent transmission repairs on a number of buses, but there was no evidence that these cases were investigated to determine the cause; thus allowing the decision makers to be in a position to take the necessary action to reduce or prevent additional expenditure. These repairs would have had a negative impact on the finances of the Board, and on the availability of buses to ply the routes.

Conclusion

16. The Board has been experiencing severe financial and operational issues which are negatively impacting its ability to provide a reliable service to commuters. The current situation facing the Board requires a completely different operational model from the past. There has been a rapid growth in the use of personal vehicles and private transport operators, declining revenue and rising costs, in an environment where bus fares had not risen for over eight (8) years. In addition, this is an era of declining subsidies. Taking all these factors into consideration, the relevant Authorities need to decide what role the Transport Board will play in the transport sector in the future. This needs to be decided first, and then a full restructuring exercise could be carried out based on that decision.

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17. It is noted that some action is currently being taken to streamline operations. It is however unclear at this point how this would impact on the finances and operational efficiencies of the Board.

Recommendations

18. The following are recommended:

- a) Information should be gathered on the numbers and distribution of commuters, to assist with the planning of schedules for particular routes.
- b) The level of operational subsidy that will be provided annually by the Government should be made known to the Board so that it can determine the parameters in which it can operate.
- c) The Board needs to streamline its operating processes to achieve efficiencies in its operations, and this would involve route rationalization, acquisition of more efficient buses and working capital to service the fleet. This could involve the Board combining routes, especially during off peak times, reducing the frequency of the services provided to destinations and the establishment of new routes.
- d) The issue of competing with the private sector for specific routes may also have to be examined, since this often leads to duplication and wastage of resources. Decisions will therefore have to be taken on how to have an integrated system with private operators in order to maximize efficiencies in the sector.

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- e) The Board of Directors and Management should ensure that the relevant controls are implemented to ensure that maintenance and other costs are minimised.

Transport Board's Response

Management of the Transport Board agrees to the findings and take note of the deficiencies outline in the Audit. The findings are being investigated by Management who has since September 2018 contracted the services of an Internal Auditor.

Management is currently streamlining its processes, procedures and systems of internal control to remediate the deficiencies raised and will provide an Action Plan by May 31, 2019 to implement the recommendations as outlined in the Report.

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CHAPTER 1

Introduction

The Transport Board (the Board) was established by an Act of Parliament on the 24th August, 1955. The operations of the Board are governed by the Transport Board Act, CAP 297; the Road Traffic Act, Cap 295 and the Transport Authority Act, Cap 295A. There is a Board of Directors that directs the affairs of the Board and provides the necessary governance. The day-to-day activities of the Board are managed by the General Manager, and at the 31st January 2019, the total staff complement was five hundred and thirty-seven (537).

Operations

1.2 The Board provides scheduled bus services from various parts of the Island from as early as 4:45 a.m. to as late as 12:30 a.m. Information provided by the Board shows that at the 12th October, 2018, its fleet comprised of two hundred and seventy-one (271) buses. However, one hundred and ninety (190) of these buses had some defect, leaving an operable fleet of only eighty-one (81) buses.

Finances

1.3 The Board is financed mainly through the collection of bus fares and fees from charters, subsidies obtained from Government, and an overdraft facility which had an outstanding balance of \$10.14 million at the 31st March, 2018. The unaudited financial information showed a deficit of \$31.9 million for that year.

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Audit Objectives

1.4 The audit objectives were to determine the factors which prevented the Transport Board from providing a reliable service to commuters, and to examine what actions have been taken to improve operations.

Audit Scope

1.5 The audit examined a number of activities of the Board, mainly for the period April 2015 to June 2018. These activities included the maintenance policies, the adequacy of the fleet and operators, the Board's efforts to increase operational efficiency, and its response to competition.

Methodology

1.6 Interviews were conducted with the General Manager, Quality Assurance Manager, Finance Manager, Operations Manager and other members of staff. Documentation and other information were obtained and analysed.

Mandate

1.7 The audit was conducted under the provisions of Section 113 (2A) of the Constitution of Barbados, which allows the Auditor General to "carry out examinations into the financial management of Ministries, departments, statutory authorities and government-controlled entities, including the manner in which those Ministries, departments, statutory authorities and government-controlled entities use their resources in discharging their functions as regards the efficiency and effectiveness of the use of those resources".

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CHAPTER 2 Factors Affecting Reliability of Service

The Board's mission is to deliver a reliable and efficient transit service. However, the Board has been unable to provide a reliable service to its commuters for a number of years. There are a number of factors that are integral to the Board consistently providing the "scheduled service" to the public. These include having the requisite number of operators and buses, and robust support systems, especially for the maintenance of the buses. However, these factors in turn rely on the Board having adequate financing.

Unavailability of Adequate Financing

2.3 The Board's unaudited financial statements were analysed with a focus on revenues and expenses. This analysis covered the financial years April 2013 to March 2018.

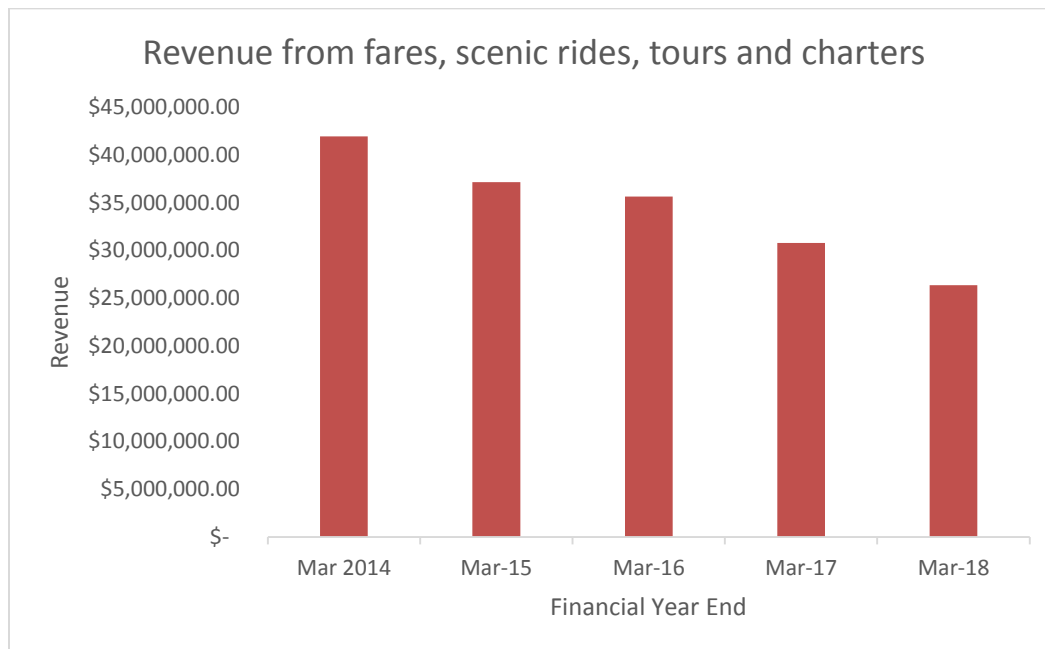
2.4 Information obtained shows that the Board has experienced financial challenges for a number of years which includes not earning sufficient operating income to meet its expenses. As a result, it has relied on large subsidies from Government to fund its operations. According to information obtained from the accounting records for the Ministry of Transport, Works and Maintenance, the Board was provided with approximately \$206 million in subsidies during the period April 2013 to March 2018. In most of those years, the subsidy exceeded a third of the expenses of the Board. The unaudited Income Statement was examined, and a net loss was noted for the 2014 to 2018 financial years.

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Declining Revenues

2.5 It was also observed that revenues directly obtained from bus operations (fares, scenic ride and tours, and charters) have been on the decline over the years, with \$26.35 million reported for the financial year ended March 2018 as compared to \$41.94 million in the financial year ended March 2014 (see chart below). This is partly attributed to the decline in bus availability over the years, which resulted in a drastic loss in revenues obtained directly from bus operations. The use of personal vehicles by individuals and the expansion of private sector transportation would also have been relevant factors contributing to the declining revenues.

Chart 1



2.6 The Board's revenue from operations (excluding subsidies from Government) in each of the five (5) years from April 2013 to March 2018 covered less than half of its expenses. For the financial year ended March 2018, this revenue was only able to cover thirty-six percent (36%) of its expenses. This is a serious imbalance that would have contributed to cash flow problems and it needs to be rectified going forward. To assist, the Board has been subsidised by Government and has been

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operating an overdraft facility, which had an outstanding balance of \$10.14 million at March 2018.

Analysis of Expenses

2.7 The main cost drivers in the expenses are salaries, bus maintenance and diesel. For the financial year ending 31st March 2018, salaries amounted to \$30.85 million, which was forty-one percent (41%) of total expenses; bus maintenance totalled \$15.92 million, which was twenty-one percent (21%) of total expenses and the diesel expense was \$11.11 million, fifteen percent (15%) of total expenses. It should be noted that, based on the total expenditure for the period April 2017 to March 2018, and the number of passengers transported during this period, the Board would have required a passenger fare of \$5.60 per ride to break even.

Audit Comment

2.8 The analysis carried out above paints a dire picture of the finances of the Board, whose survival is mainly due to it being a State-owned Enterprise that is heavily subsidised. With Government subsidies expected to decline, the Board needs to improve its operational performance. It should be noted that the recently announced increase in bus fares, along with staff adjustments, have not been taken into consideration in any analysis in this report.

Some Impacts of Inadequate Financing

Unavailability of Parts

2.9 The financial challenges have impacted a number of areas which are important to the Board being able to provide a consistent, scheduled service. One area is the purchasing of parts to repair the buses. In June 2016, the General Manager informed the Board of Directors that there were challenges facing the Board in respect to the availability of such parts. The General Manager added that the Board had owed a

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Firm, \$1.9 million at 31st May, 2016, and indicated that it had suspended the granting of items on credit to the Board. The auditors were informed that the lack of cash impacted the ordering of parts and prevented the Board from capitalizing on obtaining less expensive parts directly from overseas suppliers. The unavailability of parts as a result of inadequate financing has been an on-going problem for the Board, as evidenced by comments in the minutes of the Board of Directors' meetings.

Non Delivery of Specialty Scenic Tour Bus

2.10 The Board of Directors agreed to purchase a special scenic tour bus in March 2017, which was estimated to cost \$87,358.86. Information provided by the Board indicates that \$65,519.15 was paid to a company for the manufacture of this bus, with the last payment in July 2017. Manufacture of the bus had not been completed as at the 26th February 2019. Personnel at the Board indicated that this was due to monies being owed to the company.

Cost Savings not utilised

2.11 It was observed that during the period March 2015 to March 2018, the Board was obtaining reconditioned transmission from a local supplier with the lowest cost being \$22,460 (VAT exclusive) per unit. Having been informed in July 2014 of reconditioned Allison transmissions costing \$5,576, exclusive of shipping, from a company in the United States, the Board subsequently commenced purchasing transmissions from this supplier. Payment of fifty percent (50%) of the cost of the first shipment was made in November 2014. Subsequently, this supplier offered a rebate of \$2,027 on the return of the old transmissions, thus reducing the price of the reconditioned transmission to \$3,549, exclusive of shipping. The Board's records show that forty-five (45) reconditioned transmissions were paid for from this overseas supplier between November 2014 and May 2018.

2.12 From March 2015 until May 2018, information seen indicates that the local supplier installed at least one hundred and twenty-three (123) transmissions for the

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Board at a total cost of \$2.8 million (VAT exclusive), excluding labour. Based on the payment for the first ten (10) transmissions obtained from the first supplier in the United States, one (1) transmission purchased cost approximately \$6,396², including shipping. Therefore, if the same amount of reconditioned transmissions were purchased from this overseas supplier, the costs would have been cheaper by approximately \$2 million. The savings would be even higher since this analysis is based on the original cost for the transmission of \$3,549 (excluding shipping), and not the lower cost of \$2,027 (excluding shipping). The Board's personnel indicated that the lack of funds prevented the purchase of more reconditioned transmissions from this overseas supplier who had to be paid in cash unlike the local supplier who offered a credit facility.

Audit Comment

2.13 The incomplete scenic tour bus is another example of the Board's finances impacting its operations. It has been two years since the decision to purchase the scenic tour bus, but the Board has not been able to pay the estimated outstanding amount of \$21,839.71.

2.14 The Board could have obtained substantial cost savings by purchasing reconditioned transmissions from the United States, but reported that financial difficulties prevented this outcome. To rectify this situation, a capital injection would have been necessary. The purchase of cheaper transmissions could have had a positive impact on the number of buses available for service, as the monies saved could have been utilised to purchase other parts to repair the buses.

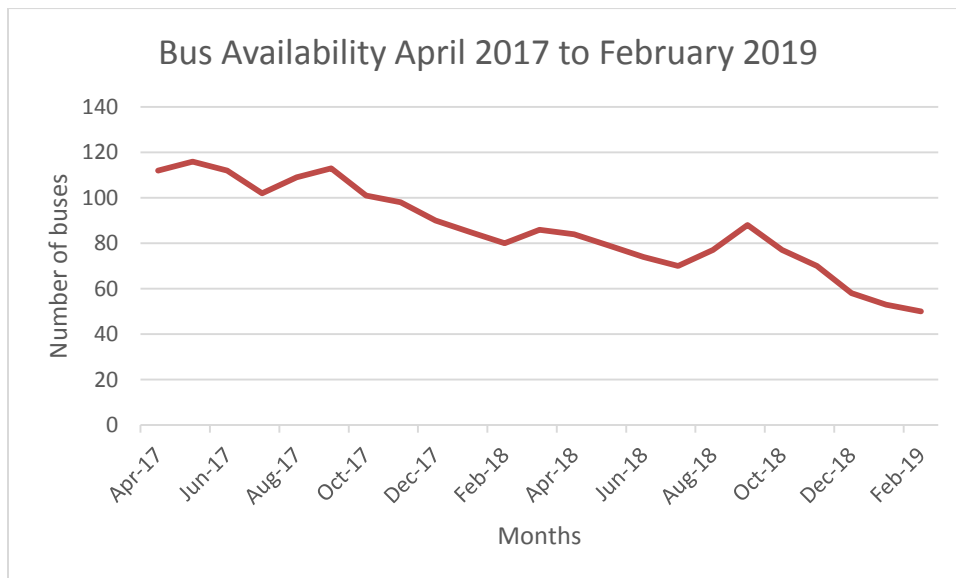
² These transmissions cost US\$2,750.00 each

OPERATIONS

Availability of Buses

2.15 In order for the Board to provide a reliable service, the requisite number of operational buses needs to be available on a daily basis. However, this has not been the case for a while. At the 12th October, 2018, the Board had a fleet of two hundred and seventy-one (271) buses. However, a significant number of these buses, one hundred and ninety (190), were out of service. Subsequently, it was reported that a bus, BM 506, could not be located on any of the Board's compounds. Information provided by the Board shows that the average monthly bus availability has declined from one hundred and sixty-three (163) at April 2015 to fifty (50) at February 2019. These amounts were below the one hundred and seventy-eight (178) that was required to service the established schedules during the in-school periods. The chart below depicts the decline in bus availability from April 2017 to February 2019.

Chart 2



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Operators (Drivers)

2.16 The shortage of buses resulted in the inefficient use of resources as, on a daily basis, operators³ were often without buses to carry out their assigned duties. These operators still had to be paid although not contributing to the economic activity of the Board.

2.17 With a substantially reduced bus availability, (monthly average at February 2019 was fifty (50)), the Board was placed in the situation of having excess operators. According to the Board's statistics, as at the 31st January, 2019, there were two hundred and seventy eight (278) operators employed. This was down from three hundred and nineteen (319) at the 30th October, 2014. There have been subsequent reductions in the number of operators as the Board continues its restructuring process.

Audit Comment

2.18 It is clear that the Board finds itself in a challenging situation with insufficient buses to fulfil its "scheduled" services. An increase in buses would have

³ Operators refer to bus drivers

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been necessary for the Board to be able to service the stated bus schedules. However, if these buses were available, the Board would still have been challenged by operational inefficiencies, such as high costs in relation to its revenues. The Board needs to consider adjusting its bus schedules to incorporate additional combinations of routes. The shortage of buses has resulted in major delays to some services which caused increased wait times for commuters.

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MAINTENANCE

2.19 Bus Maintenance, which includes repairs, constitutes a major expense of the Board and has a direct impact on the number of buses available for service. The frequency of repairs to buses and the parts being repaired directly impacts the finances of the Board. Therefore, it is important that this area is managed well, in order to keep costs under control.

Maintenance and Lubrication

2.20 The Audit Office sought to determine whether the Board was conducting the lubrication⁴ and maintenance⁵ procedures as recommended by the manufacturer, and whether the Board's manual was in sync with the recommendations of the manufacturer (**see Appendix 1**). These procedures are important to the proper functioning of the buses, and therefore can impact the number of buses available to be used on a daily basis. To obtain the required information, the Audit examined the intervals between the procedures, using the Board's estimate of the distance travelled by the buses. (**See Appendix 1**).

2.21 Our review of maintenance records for the period April 2016 to June 2018, for a number of buses, revealed that the Board was not adhering to the manufacturer's minimum recommendations, and its own policies on lubrication and maintenance. Notably, the analysis revealed that fourteen (14) buses in the sample had only one maintenance and lubrication service over the two year period. In addition, the Board's policy required a longer interval for lubrication and shorter period for maintenance, than that recommended by the manufacturer. See **Appendix 2** for further details.

⁴ Changing of the various oils and lubrication of the relevant mechanical parts

⁵ Checks of specific vehicle parts

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Audit Comment

2.22 The Board allowed too much time to pass before the buses in the sample received lubrication and maintenance services. These services are important to maintaining adequate fleet levels and preventing major breakdowns.

Frequent Repairs

2.23 An examination of invoices issued by a service provider over the nine (9) year period, 2009 to 2018, for the reconditioning of transmissions and the replacement of torque convertors revealed that transmissions on some buses were changed frequently. Some changes were so frequent, that an investigation should have been triggered to determine the cause. However, the Board did not provide any evidence that such an investigation was conducted. In addition, no evidence was seen in the minutes of the Board of Directors', reviewed by the Auditors, that the high frequency of transmission changes and their attending costs were discussed in any great detail at the level of the Board of Directors. In total, fourteen (14) buses were observed with high frequency of transmission changes, some of which occurred within six (6) months. The related reconditioned transmissions installed for those fourteen (14) buses cost \$1.75 million. In addition, it was also observed in a few cases that the same parts, other than transmissions, were changed within a short timeframe on the same bus. Further details are at **Appendices 3** and **4**.

Audit Comment

2.24 The high frequency of transmission changes with its associated costs is of concern. The Board of Directors and the Management of the Board are tasked with managing the operations of the Board, which involves monitoring costs and seeking measures to gain cost efficiencies. This situation observed with the excessive repairs should have engaged the attention of Management and the Board of Directors, in order that the appropriate decisions could be taken on how to contain the expenditure.

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Investigations should have been conducted to determine whether the problem was due to the quality of the transmission, operator misuse or inadequate maintenance subsequent to the installation of the transmission.

Over Invoicing/Over Payment

2.25 The Audit observed four (4) cases where the Board was invoiced twice for work carried out on the same bus. In all cases there was a different invoice number, but the work performed was the same, for the same bus and on the same date. All eight invoices which totalled \$257,149.08 were paid, resulting in an overpayment of \$128,574.54. In addition, all of the invoices were approved for payment by personnel of the Quality Assurance Department. The procedures employed by this Department should be reviewed. The table below provides further details.

Table 1: Illustration of Amounts Paid

Bus #	Invoice #	Invoice Date	Invoice Amount (\$)	Part replaced
29	69498	09/23/2014	31,838.19	Transmission
29	69499	09/23/2014	31,838.19	Transmission
92	69453	05/13/2014	41,191.67	Transmission
92	69419	05/13/2014	41,191.67	Transmission
125	69468	08/11/2014	24,590.53	Torque Convertor
125	69480	08/11/2014	24,590.53	Torque Convertor
86	69903	05/04/2016	30,954.15	Transmission
86	69882	05/04/2016	30,954.15	Transmission
		Total	257,149.08	

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Selecting Service Providers

2.26 The Board utilises external service providers to repair the buses. In this context, the Audit considered that costs would have been the primary factor when deciding to engage the services of a provider, especially with the Board's dire financial situation. However, the Board's personnel indicated that the number of buses that a service provider could accommodate for repairs was the main deciding factor in the selection process.

2.27 One of Management's aims would have been to keep maintenance costs down. This would have been achieved by the cost comparison of services between service providers, to determine who could provide which service at the best cost.

Information for Decision Making

2.28 In any organization, information is vital to its operations. Proper decisions can only be made based on having quality and timely information. Information that would be critical to the Board's operations includes, but is not limited to, the maintenance costs of each bus, costs of repairs carried out by the Quality Assurance Department of the Board and the service providers, the length of time a bus was off the road due to repairs, and ridership on each route per day and per trip.

2.29 The Board captures its maintenance information in a software programme that is used throughout the organization. For example, in Stores it is used to record the movement of parts.

Anomalies in Information

2.30 In conducting an analysis of maintenance costs for the buses, the auditors observed an anomaly with the information supplied from the software programme. In several instances, the completion date for a repair was earlier than the start date. This

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rendered the information collected useless for analysis purposes and placed doubt on the accuracy of the other repair information supplied.

Lack of Information

2.31 There is also the case of inadequate information. The cost of the parts and labour are entered into the software programme for repairs conducted by the service providers. However, when repairs are carried out by the Board's Quality Assurance Department, only the parts costs are entered for that specific repair.

Audit Comment

2.32 Analysis of operations is important as it provides Management with insight, and can highlight any areas of financial or operational inefficiencies or inconsistencies, thus affording Management the opportunity to improve operations. A proper analysis requires reliable and accurate information; however, from the data supplied by the Board, doubt is placed on the reliability and accuracy of the information provided. In addition, the Board is not adequately capturing all of the information for repairs conducted by the Quality Assurance Department; therefore, it cannot determine whether it is more economical to repair buses using its own labour or to outsource the repairs to service providers.

Conclusion

2.33 The Board has been plagued with major financial and operational issues that have impacted its ability to provide a reliable service to its commuters. These issues will have to be resolved in order for the Board to achieve this aspect of its mission. These issues are linked, such as the financial problems preventing the acquisition of necessary items that are required for efficient day to day operations. In addition, the information reviewed on maintenance shows that this is an area that requires improvement going forward, with the need for tighter controls. Furthermore, the lack of adequate information will impact the decisions made by the Board.

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Recommendations

2.34 The following are recommended:

- a) The level of operational subsidy that will be provided annually by the Government should be made known to the Board, so that it can determine the parameters in which it can operate.
- b) The Board of Directors and Management should ensure that the relevant controls are implemented to ensure that maintenance and other costs are minimised.
- c) The Board should ensure that there is a mechanism in place for triggering investigations when a bus undergoes the same repairs frequently.
- d) The Board should determine what happened to the bus that is reportedly missing.
- e) The Board should seek to recover the overpayments from the service provider.
- f) The Board should ensure that the systems and processes are in place to produce accurate and reliable information for Management.

CHAPTER 3

Efforts to Improve Operations

The Board retrenched workers in March 2014, rescheduled routes in June 2014, and hired a Management Consultant in March 2016. These measures were to improve aspects of the Board's operations and are analysed as follows.

Rescheduling of Routes and Retrenchment of Workers

3.2 The rescheduling of routes was a measure used to achieve greater operational efficiency. This occurred in 2014 as a result of a reduction in bus availability and the retrenchment of workers. The rescheduling exercise saw the elimination of some services and a reduction in service to some locations. A comparison of the total expenditure at March 2014 and March 2015 for Salaries, Wages and Allowances; Bus Maintenance and Diesel, shows that there was a total reduction in expenditure of \$10.21 million. However, there was also a reduction in revenue generated from fares of \$4.78 million, and severance payment costs of \$5.84 million. Based on the unaudited financial information, the Board would not have benefited positively from the retrenchment and rescheduling exercises in the period up to the 31st March, 2015.

Management Consultant

3.3 On the 7th March 2016, the Board entered into an agreement with a Management Consultant. However, no discussion or approval for the engagement of the services of this individual was seen in the minutes of the meetings of the Board of Directors.

3.4 According to the contract, the Management Consultant was expected to serve the Board from the 7th March 2016 to the 7th September 2016, a period of six (6) months. One of the objectives to be achieved by the Management Consultant was to

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increase the fleet availability to a minimum of two hundred (200) buses by November 2016. The General Manager said that this objective was not achieved because of the unavailability of funds to purchase urgently needed parts, and the suspension of activity on the Board's accounts by some main creditors. Information on the bus availability provided to the Audit confirmed the non-achievement of this objective.

Limitations to the Special Project

3.5 Decisions taken by the Board of Directors and the Management of the Board should be to the benefit of the Board and have a high percentage chance of being successful. However, aspects of the Special Project which commenced officially in May 2016 were hampered by issues that were already known. The contract for the Management Consultant indicated that he was accountable for the success of the project. For this project, one important element was spare parts.

3.6 Review of the minutes of the Board of Directors show that the availability of spare parts was an issue as seen in the updates provided by the Management Consultant. In the minutes of the Board of Directors' meeting held on the 26th July 2016, the Management Consultant noted that there were serious challenges arising from the shortage of parts for the buses. Minutes of the meeting held on the 19th October 2016, indicated that the Management Consultant stated that he was experiencing challenges in obtaining parts in a timely manner. The Board indicated that prior to hiring the Management Consultant, it was unable to maintain an adequate supply of spare parts due to the lack of funds. The Board did not provide any information to show that measures were implemented to resolve the problem before hiring the Management Consultant.

Audit Comment

3.7 The problems with the availability of spare parts indicate that factors that would have severely affected aspects of the project were not sufficiently resolved before

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the project was implemented. Therefore, it would have been difficult to achieve those objectives that relied on the availability of parts, especially the objective to increase the fleet availability. This indicates poor planning by Management who initiated a project without providing the necessary resources to achieve the Board's objectives.

Conclusion

3.8 Management at the Board has attempted to improve its financial situation and operational issues by implementing some measures. However, with such a large disparity between revenue (excluding subsidies from Government) and expenditure, further sustained action to increase efficiency in the transporting of commuters, would be required to bridge the gap.

Recommendation:

3.9 The Board should ensure that any project instituted has the necessary resources to ensure its success.

CHAPTER 4

Competition

Competition on Routes

The transport sector in Barbados is serviced by private operators as well as the State-owned Transport Board. In many instances they operate on the same routes. This occurs, for example, on the Bathsheba, Bayfield, and St. Patrick's routes. When this occurs, there is no single structured schedule for these routes that would govern the operations of both the Board and the private operators. The Board's buses operate on a fixed schedule, whereas the private operators don't. In this regard, it has been observed that the private operators generally leave a destination a few minutes ahead of the scheduled service of the Board, and this allows them to transport the bulk of the travelling public. The impact of this is most noticeable on the journeys inbound to Bridgetown, where, except at peak periods, the private operators' vehicles can be seen with the majority of available passengers and the Board's buses with a minimal amount.

Audit Comment

4.2 The present situation within the transport sector does not allow for an efficient use of the Board's available resources, and impacts negatively on the revenue generating capacity of the Board. This situation would need to be resolved or it will continue to impact on the Board's ability to increase revenue, while contributing to duplication of resources in the sector, which often occurs.

Transport Board's Response to Competition

Transport Authority Service Integration Project

4.3 The Board informed the Audit Office of a number of measures that were implemented in order to respond to the competition from the public service vehicles.

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One of these measures was the initiative known as the Transport Authority Service Integration Project (TASI). In this exercise, the Board collaborated with the Transport Authority to find a framework that allowed for the coordinated delivery of services by the public and private service providers. However, this project ended in June 2018, and the Board did not indicate whether an analysis was conducted to determine whether it was successful.

Use of Floater Buses

4.4 Another measure involved the Board using unscheduled services to compete directly with the public service vehicles. This was the introduction of ‘floater’ buses on specific high ridership routes on Saturdays, such as the Sam Lord’s Castle, Bayfield, Sargeant’s Street and St. Patrick’s routes. The Board indicated that the exercise was conducted for a few months from July 2015, and proved successful in all the above-mentioned routes, except St. Patrick’s. It was stated that the initiative continued until bus availability on the weekends began to decline, and there were no surplus buses to support the initiative.

Partnering with Event Promoters

4.5 The Board also sought to remain relevant and competitive by partnering with a number of event promoters to become the transport provider of choice for Crop Over events, reggae events, Gospel Fest and other shows throughout the year. Personnel at the Board indicated that this initiative was successful but was hampered by the lack of access to buses. It was stated that the primary factor used to measure success was the annual increase in ridership for specific events.

New Services on Non Traditional Routes

4.6 The Board introduced new services on non-traditional routes. These services allowed passengers to pay one fare, where traditionally two fares were

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required, to get to locations such as Warrens or Speightstown from country parishes such as St. Philip, St. George and Christ Church. They included:

- Wellhouse to Warrens
- Six Roads via St George to Warrens
- ABC connection
- Warrens/Garrison service
- Speightstown via Holder's Hill to Warrens
- Fairchild Street via Spring Garden Highway to Speightstown

4.7 The Board provided an analysis of the first four (4) routes above for the financial year April 2014 to 2015. This analysis stated that the number of passengers per trip was high, as on average seventy-eight percent (78%) of bus capacity was utilised on each trip. The analysis provided for the other two (2) routes was for the financial year ending March 2016 but it did not include any information by which the viability of these two (2) routes could be determined.

Audit Comment

4.8 The Board has made efforts to compete by increasing its visibility within the community through marketing initiatives and catering to the needs of the public, with the introduction of new routes, and participation in the Transport Authority Service Integration (TASI) project. These efforts are commendable. However, the Board did not provide any indication as to whether the TASI project achieved its objectives, and the analysis provided for the new routes was not up-to-date. It is necessary that analysis is conducted of project objectives in order that decisions on future initiatives could be guided by the results.

4.9 The Floater Bus Initiative and the partnering with Event promoters were novel approaches, and ways to increase ridership and by extension revenue. However, in enacting these initiatives, buses from the already diminished fleet would have been

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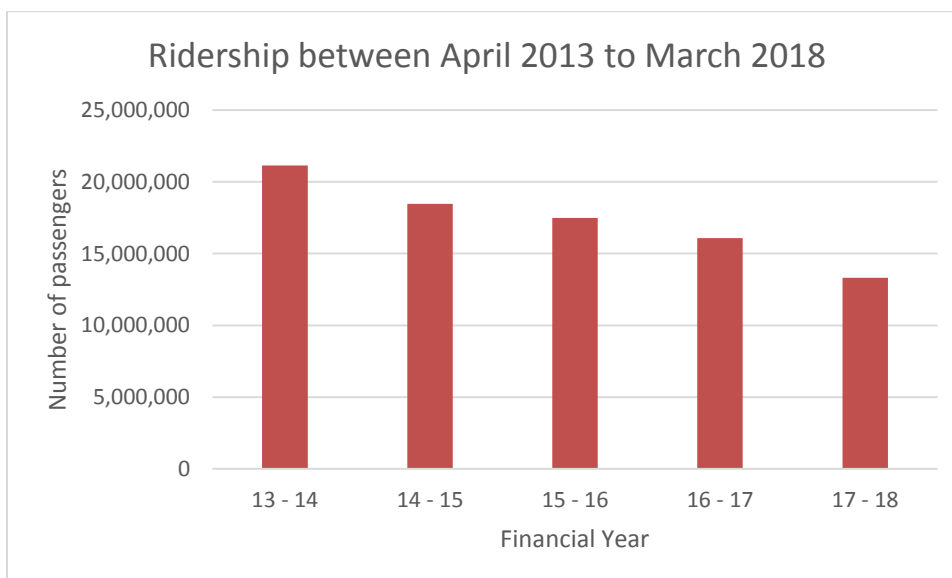
used. Therefore, these initiatives would have been plagued by a lack of buses to fully support and sustain them. These initiatives may be better suited after the Board has fixed the issue of low fleet levels.

Route Rationalisation

4.10 Route rationalisation is the adjustment of bus schedules, both in terms of the route and the schedule. Such rationalisation could be carried out after the analysis of changing trends in travel patterns, or new travel patterns emerging that would require new routes, or changes to services on old routes. The analysis of the Board's routes to ensure viability with regard to their financial or social impact is important. This should be a continuous exercise, as societal needs are very fluid.

4.11 The last rationalisation of routes was in June 2014. However, ridership information provided by the Board shows that the number of passengers transported by the Board has been declining. For the financial year ended March 2014, the Board transported 21.14 million passengers, whereas for the financial year ended March 2018 it transported 13.31 million, a reduction of 7.83 million. The chart below shows the decline over the period.

Chart 3



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4.12 One method of achieving rationalisation is by combining routes, thus utilising (1) one bus instead of two (2) to transport the commuters on the two (2) routes. At present, according to the bus schedules, there are a few routes that are combined at certain times. Other measures would be to reduce the frequency of the services provided to a destination to achieve efficiencies or introduce new routes based on passenger needs.

Audit Comment

4.13 Based on the ridership information and the other difficulties that the Board was experiencing, it should have rationalised its services in order to achieve efficiency and to provide a reliable service. This could have been achieved by combining more routes, especially during off-peak times, and reducing the frequency with which buses travelled on some routes. Before such adjustments, it would have been beneficial for the Board to conduct a route rationalisation study. There might be a need to implement, depending on historical travel patterns, varying schedules for Sundays and bank holidays, especially to meet increased demands for major events. The reduction in passengers transported by the Board in recent years confirms the need to constantly seek to adjust schedules in order to eliminate inefficiencies.

Recommendations:

4.14 The following are recommended:

- a) Information should be gathered on the numbers and distribution of commuters, and the need for the Board's buses on particular routes.
- b) The issue of competing with the private sector for specific routes should be examined in order to avoid duplication and the wastage of resources.

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- c) With declining ridership, the Board should rationalise its schedules in order to eliminate inefficiencies.

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Appendix 1

The Board's Estimate of Distance Travelled by a Bus

The Board's personnel indicated that the odometers were broken for a number of years, and that based on the past performance of the buses when the odometers were functioning, they estimated that a bus travels 10,000 km every four (4) weeks.

Manufacturer's Minimal Recommendations for Maintenance and Lubrication Procedures

The manufacturer's **minimum** recommendations state that lubrication should be done every 5,000km (2 weeks based on the Board's estimate of bus mileage) and maintenance every 15,000km (6 weeks based on the Board's estimate of bus mileage).

Maintenance and Lubrication Procedures Outlined in the Transport Board's Manual

The Transport Board's "Standard Operating Procedure Manual: QAD 2 (2) and (3)" dictates that lubrication and maintenance procedures should be carried out at 10,000km intervals.

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Appendix 2

Non-compliance with Requirements of Manufacturer and the Board's Standard Operating Procedures

The length of time between maintenance and lubrication services, which the Board's personnel said were carried out at the same time, was examined for eighty (80) buses based on the manufacturer's **minimum** recommendations. This analysis was carried out for the period April 2016 to June 2018 using the maintenance records. It revealed that fourteen (14) buses had only one maintenance and lubrication service for this period. Of the remaining sixty-six (66), two hundred and twenty-seven (227) maintenance and lubrication services were performed. Of these 227 services, 89% of the maintenance procedures were not within the manufacturer's recommended time frame of six (6) weeks, and 96% of the lubrication procedures were not within the manufacturer's recommended time frame of two (2) weeks.

Another analysis was carried out based on the Board's Standard Operating Procedure QAD 2 (2) and (3). These procedures recommend conducting maintenance and lubrication services every 10,000 km, which would be every twenty-eight (28) days based on the estimated distance that the buses travel. The analysis found that 94% of the services that were carried out were more than twenty-eight (28) days apart, indicating that the Board's own maintenance policy was not followed. Furthermore, the average number of days between servicing was 129 days, which exceeded the recommendation by one hundred and one (101) days.

The Audit investigated whether the buses had repairs between service dates in order to determine if the large intervals between services were due to the buses being off the road awaiting repairs. However, multiple repair jobs were seen between service dates for the sample of buses used in the analysis, indicating that the buses were for the most part in use between service dates, and therefore should have been serviced far more frequently.

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Comparison of Manufacturer's Minimal Recommendation with Requirements of the Board's Standard Operating Procedures

	Manufacturer's Minimal Recommendation	Transport Standard Procedures	Board's Operating
Lubrication	Two (2) weeks	Four (4) weeks	
Maintenance	Six (6) weeks	Four (4) weeks	

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Appendix 3

Frequent Repairs

The Audit reviewed invoices issued during the period January 2009 to May 2018 by the service provider that carried out the majority of the transmission and torque convertor replacements. The results of the review are discussed below. In the following sections, transmission changes refer to the remanufacture or reconditioning of a transmission.

Frequency of Transmission Changes

The Board's Quality Assurance personnel indicated that a reconditioned transmission should last at least two years. Invoices issued by the service provider during the period January 2009 to May 2018, for the reconditioning of transmissions and the replacement of torque convertors, were analysed for the frequency of these services, as this could have an adverse impact on the finances of the Board. In total, the invoices seen related to work carried out on one hundred and seventy-eight (178) buses. For those one hundred and seventy-eight (178) buses, there were six hundred and one (601) transmission installations during the period. It would be expected that where transmissions were being installed at a high frequency, an investigation would be conducted to determine the reasons.

Our review revealed a number of issues related to the installation of reconditioned or remanufactured transmissions that would have negatively impacted on the finances of the Board and bus availability. It was observed that a number of buses had another transmission installed within six months or a year of the previous installation. See the table below.

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Frequency of Transmission Changes

Period: Date Range	No. of buses that experienced changes within the period	No. of Transmissions Changed after Previous Change
Within 6 months	43	58
Between 6 months and 1 Year	33	44
Total		102

In some cases, specific buses had a high frequency of transmission changes, as much as five (5) to eight (8), following the first recorded change. Furthermore, these changes did not take place at a uniform time period, such as one each year, but in some cases multiple transmissions were installed within a short period. For example, a bus had five (5) transmissions installed within (19) nineteen months; another bus had four (4) within approximately ten (10) months, and yet another bus had four installations in five (5) months. In each of these cases, the service provider did not charge for one of the installations. The details of the transmission installations for these fourteen (14) buses are shown in **Appendix 4**.

Personnel at the Board were asked about the high frequency of transmission changes and whether buses were checked by the Quality Assurance Department on return from a third party service provider prior to being put back into service. Personnel indicated that after buses were serviced by a third party service provider they should be checked on their return to ensure that they were appropriately fixed, and that if they were not fixed adequately, they would be sent back to be fixed at no cost. However, the Audit was informed that sometimes buses are returned to service without being checked by Quality Assurance officers. When asked whether an investigation was carried out into the frequent transmission changes, the Quality Assurance Officer responded that he was not sure.

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Excessive Repairs to Bus BM 109

Based on the supplier's invoices and the records maintained by the Transport Board on the maintenance performed on each bus, it was observed that bus BM 109 had \$89,043.82 in transmission repairs within a four month period. Two rebuilt transmissions were installed by Company B and an overhaul was carried out by Company A. Details are shown in the table below

Excessive Transmission Repairs for BM 109

Service Provider	Invoice date or date recorded in maintenance records	Job details	Cost \$
Company B	2016-11-09	Installing transmission	28,886.20
Company B	2017-01-16	Installing transmission	30,205.87
Company A	2017-02-28	Transmission not changing	3,179.32
Company A	2017-03-03	Overhaul transmission	26,772.43
		Total	89,043.82

Other Re-occurring Repairs

In addition to the transmissions, it was observed, according to the fleet history for the buses, that specific parts were frequently issued for the repair of the same bus as shown in the table below. No evidence was seen that these issues were investigated to determine the cause of these frequent repairs in order to reduce subsequent incidences.

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Re-occurring Repairs

Bus No	Part supplied	Dates of jobs for when part was issued			
		1 st	2 nd	3 rd	4 th
BM 227	Turbo charger	2016-06-03	2016-09-20	2016-11-10	
BM 45	Starter	2016-09-04	2016-09-18		
BM 66	Pressure tank	2016-04-20	2016-05-29	2016-06-15	2016-09-01

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Appendix 4

High Frequency of Transmission Changes

Bus #	Dates of Invoices	Cost of Transmission and Labour	Total Cost for each Bus (\$)
Transmission changes in a short time frame only (excludes prior changes)			
17	22 May, 2017	24,260.00	48,520.00
	21 August, 2017	-	
	28 November, 2017	24,260.00	
25	26 January, 2015	26,612.19	75,132.19
	13 August, 2015	24,260.00	
	25 January, 2016	24,260.00	
67	06 March, 2013	26,282.95	106,238.65
	22 April, 2013	26,443.51	
	18 January, 2014	26,912.19	
	10 October, 2014	26,600.00	
High frequency of transmission changes (includes first change observed)			
29	02 September, 2009	26,338.11	158,531.17
	29 August, 2011	26,508.49	
	03 May, 2012	27,443.10	
	11 July, 2013	27,419.58	
	23 September, 2014	26,300.00	
	23 September, 2014	26,300.00	
	13 June, 2016	24,560.00	
33	26 October, 2009	26,706.88	128,276.53
	02 June, 2012	26,473.54	
	19 November, 2012	26,363.80	
	08 May, 2015	26,919.19	
	13 August, 2015	-	
	25 January, 2016	24,260.00	
	20 March, 2017	24,260.00	
75	27 October, 2009	26,008.34	
	16 April, 2011	26,708.54	
	5 November, 2012	26,610.92	

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Bus #	Dates of Invoices	Cost of Transmission and Labour	Total Cost for each Bus (\$)
	20 February, 2015	26,912.19	104,791.65
	23 April, 2015	-	
	4 January, 2017	24,560.00	
86	25 February, 2010	27,176.15	182,716.02
	08 June, 2011	26,998.10	
	28 November, 2012	26,473.54	
	10 December, 2013	26,912.19	
	31 January, 2014	26,912.19	
	22 August, 2014	26,300.00	
	04 May, 2016	24,560.00	
	04 May, 2016	24,560.00	
	28 October, 2013	26,712.93	
88	11 January, 2010	27,168.14	180,064.57
	06 June, 2011	26,340.61	
	02 July, 2013	27,419.58	
	26 January, 2014	26,912.19	
	06 April, 2014	26,612.19	
	22 February, 2017	24,260.00	
	03 March, 2017	-	
	27 April, 2017	24,260.00	
	12 July, 2017	24,260.00	
98	12 May, 2009	29,164.81	123,456.42
	28 February, 2013	26,116.42	
	28 August, 2015	24,260.00	
	24 March, 2016	24,260.00	
	13 July, 2016	24,260.00	
	07 September, 2016	-	
	03 March, 2017	24,560.00	
114	24 February, 2009	27,883.57	
	26 April, 2012	26,427.15	
	26 March, 2013	26,443.51	
	15 January, 2014	26,912.19	

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Bus #	Dates of Invoices	Cost of Transmission and Labour	Total Cost for each Bus (\$)
	14 March, 2014	26,781.66	157,736.70
	21 September, 2014	26,912.19	
	25 January, 2016	24,260.00	
116	24 October, 2011	27,217.58	131,280.76
	13 May, 2013	26,783.45	
	28 October, 2013	26,712.93	
	20 February, 2014	26,612.19	
	08 May, 2015	26,612.19	
	25 January, 2016	24,560.00	
120	10 th October, 2011	27,178.49	123,678.15
	13 th March, 2013	26,338.15	
	12 th January, 2016	24,260.00	
	1 st July, 2016	24,260.00	
	16 th February, 2017	24,260.00	
	1 st February, 2018	24,560.00	
122	11 May, 2012	27,532.15	99,823.51
	22 March, 2013	26,743.51	
	04 November, 2016	24,260.00	
	06 March, 2017	24,260.00	
	07 June, 2017	24,560.00	
	21 August, 2017	-	
125	23 April, 2009	27,419.84	127,041.09
	18 th November, 2011	27,217.58	
	25 th February, 2013	26,743.51	
	25 th January, 2016	24,260.00	
	15 th June, 2017	24,560.00	
	28 th July, 2017	24,260.00	
TOTAL			1,747,287.41