

MUNICIPAL AUDITING REPORT CITY OF ROANOKE



RCPS Transportation Follow-Up September 19, 2018

Report Number: 19-001
Audit Plan Number: 18-106

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OBJECTIVES & SCOPE

Objectives:

1. Did Mountain Valley Transportation implement a GPS data management plan to review idling and speeding events?

Yes, with Qualifications – Mountain Valley Transportation was not utilizing GPS data in the manner described in its data management plan. However, management was utilizing the data to monitor excessive speed and bus idling times. Mountain Valley is once again in the process of installing a new GPS system that promotes the potential of GPS data to better manage the fleet and bus operations.

2. Are malfunctioning GPS units repaired or replaced within 2 to 3 days?

No – Buses regularly remained in service for more than three (3) days without having malfunctioning GPS units repaired or replaced.

3. Were bus inspections performed in accordance with VDOE specifications and Mountain Valley company policy?

Yes, with Qualifications – Mountain Valley Transportation now uses 45 calendar days as the trigger for scheduling inspections with their Dossier Maintenance system. While 92% of the inspections we reviewed were performed at least 45 days apart, this approach still resulted in a number of buses being inspected after very few elapsed miles and well short of the 90 school days allowed by the VDOE.

4. Did RCPS report annual ridership in accordance with VDOE instructions?

No – The average daily ridership for yellow buses was again not calculated in accordance with the guidance provided in the *VDOE Pupil Transportation Data Submission Guide*. Anomalies in the head count data were identified in the spreadsheets used for the 2017 daily ridership estimates. Additional improvements are needed to ensure average daily ridership estimates are accurate and consistent with VDOE requirements.

5. Did RCPS report annual bus mileage in accordance with VDOE instructions?

No – A well-designed and complete process for capturing and validating mileage by category has not been developed. The data used to report 2016-17 school year mileage included estimates, utilizing the routing system data and a partial year's data from the GPS system. The data also excluded miles traveled to transport students via public and private carriers, and included miles paid by student funds.

6. Did RCPS correctly report public and private carrier transportation expenditures?

Yes – The Accounting Department implemented a procedure to help ensure the proper reporting of public and private carrier expenses.

7. Were salaries and benefits for bus aides working on exclusive routes reported as part of RCPS transportation costs in accordance with VDOE instructions?

Yes, with Qualifications – The Director of Transportation reported the salaries and benefits of all bus aides in the 2016-2017 Pupil Transportation Report instead of just the exclusive bus aides as instructed in the VDOE Pupil Transportation Data Submission Guide. The error resulted in overstatement exclusive transportation costs (\$277,482), exclusive transportation cost per mile (\$0.67) and exclusive transportation cost per pupil (\$664).

8. Did RCPS effectively implement its plans for using GPS data to help ensure mileage is accurately reported to VDOE and in evaluating deadhead miles?

No – The Director of Transportation has not developed a plan for using GPS data to report mileage nor has he utilized the GPS data to validate deadhead mileage reported by the VersaTrans routing software. RCPS continues to report a higher percentage of deadhead miles than neighboring school districts, which has been more than 35% of total miles for the past 12 years.

9. Has RCPS developed and documented a bus replacement plan?

No – The current contract with Mountain Valley Transportation specifies age as the only factor to be considered in maintaining the bus fleet.

10. Has RCPS developed written procedures that document data sources, assumptions, and key steps that must be performed to properly complete and file the annual Pupil Transportation Report?

No – In lieu of creating procedures for RCPS Pupil Transportation Report completion, the Director of Transportation made notes to the existing VDOE Pupil Transportation Data Submission Guide. The notes do not address how RCPS will capture and validate that data, nor do they include data sources used or assumptions made.

RCPS operational cost per mile continues to trend higher than neighboring school divisions, even when incorporating necessary deductions due to the outsourcing relationship with Mountain Valley Transportation.

11. Was the job description for the Director of Transportation revised to include responsibilities for monitoring and overseeing the transportation service provider?

Yes – The job description for the Director of Transportation was revised on August 21, 2017 to reflect the current outsourced model.

12. Were procedures developed to accurately identify the number of miles and related costs paid by the school division for special trips, excluding those miles and costs paid with student activity funds?

No – A plan for collection and sharing of GPS data between Mountain Valley Transportation and the school division has not been developed or documented. Miles associated with field trips paid out of fiduciary funds have not been excluded from VDOE reporting.

Scope:

We reviewed GPS unit documentation from June 2017 to May 2018, and discussed data management with Mountain Valley Transportation personnel.

We reviewed bus inspection records from July 1, 2017 through June 30, 2018.

We analyzed transportation data reported to the VDOE for school year 2016/17 for the following school divisions:

- Roanoke City
- Harrisonburg City
- Lynchburg City
- Salem City
- Roanoke County

We used contractor invoices to verify bus aides' salaries and benefits.

The Director of Transportation for Roanoke City Public Schools provided supporting documentation for pupil counts as well as mileage. Total mileage by type of transportation for planned routes was based on data taken from the VersaTrans routing software.

End of Objectives & Scope

BACKGROUND

Roanoke City Public Schools [RCPS] contracts with Mountain Valley Transportation for all student transportation services. Mountain Valley Transportation:

- Hires, trains, and manages all bus drivers
- Purchases and maintains all buses, vans, and service vehicles
- Purchases all required insurance coverages

The contract ends June 30, 2019, and has no more options for renewal. Competitive offers must be sought and a new contract awarded for the 2019/2020 school year.

Services are provided within two basic classifications:

- **Class A Services** are regular, designated yellow bus routes that are run mornings, afternoons and evenings.
- **Class B Services** are requested transportation in connection with extracurricular activities, sports, field trips and other special events.

The following table outlines the purchase orders entered for Class A and Class B services for the past six (6) fiscal years:

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Class A	\$ 8,496,000	\$ 9,551,593	\$ 9,180,000	\$ 9,180,000	\$ 9,180,000
Class B	\$ 571,576	\$ 575,424	\$ 709,128	\$ 674,362	\$ 773,493
Total	\$ 9,067,576	\$ 10,127,017	\$ 9,889,128	\$ 9,854,362	\$ 9,953,493

OTHER EXPENDITURES:

RCPS pays for public and private carrier expenses, fuel for the buses, and costs for routing software. The Division also employs a Director of Transportation and an Assistant Director of Transportation who are responsible for:

- Determining service levels
- Designing and coordinating routes
- Approving and coordinating field trip requests
- Reviewing and approving contractor and fuel delivery invoices
- Monitoring driver training sessions

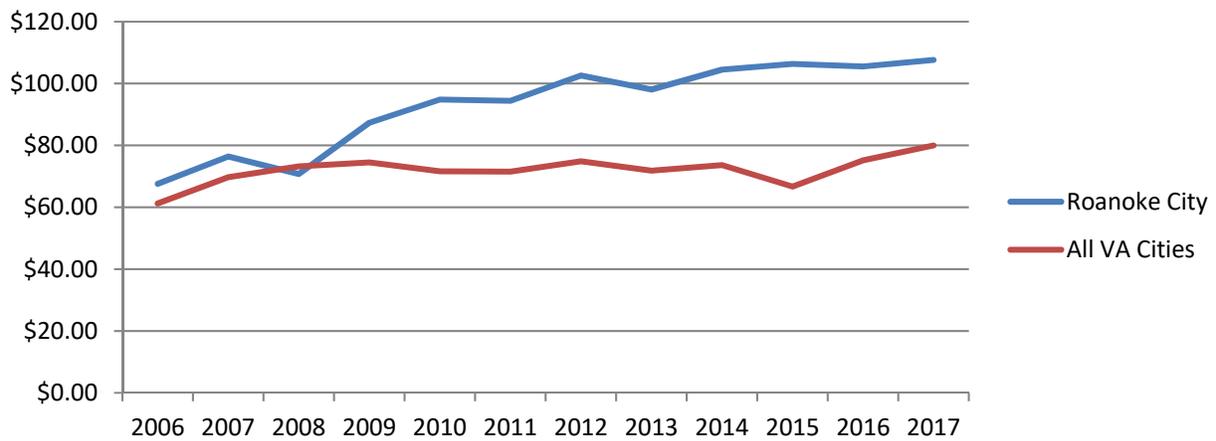
VDOE TRANSPORTATION REPORTING:

RCPS must report pupil transportation costs annually, in accordance with the Virginia Department of Education Pupil Transportation Data Submission User Guide. The Finance Officer, Transportation Director, and Superintendent must certify to the VDOE that the data reported is accurate to the best of their knowledge.

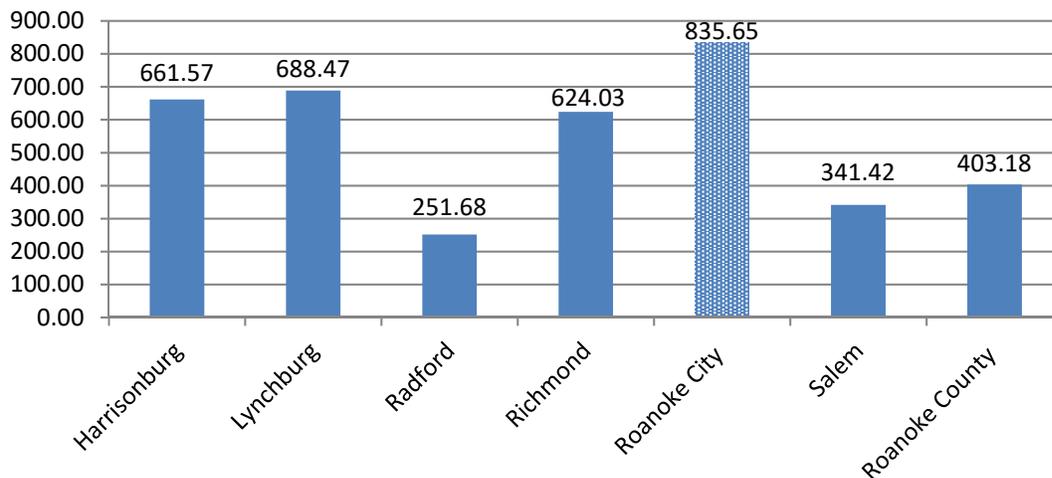
COMPARATIVE DATA FOR VIRGINIA SCHOOL DIVISIONS:

The Virginia Auditor of Public Accounts (APA) publishes a comparative report each year showing school transportation expenditures by locality. The following graphs were based on the most recently available APA data (2016/17):

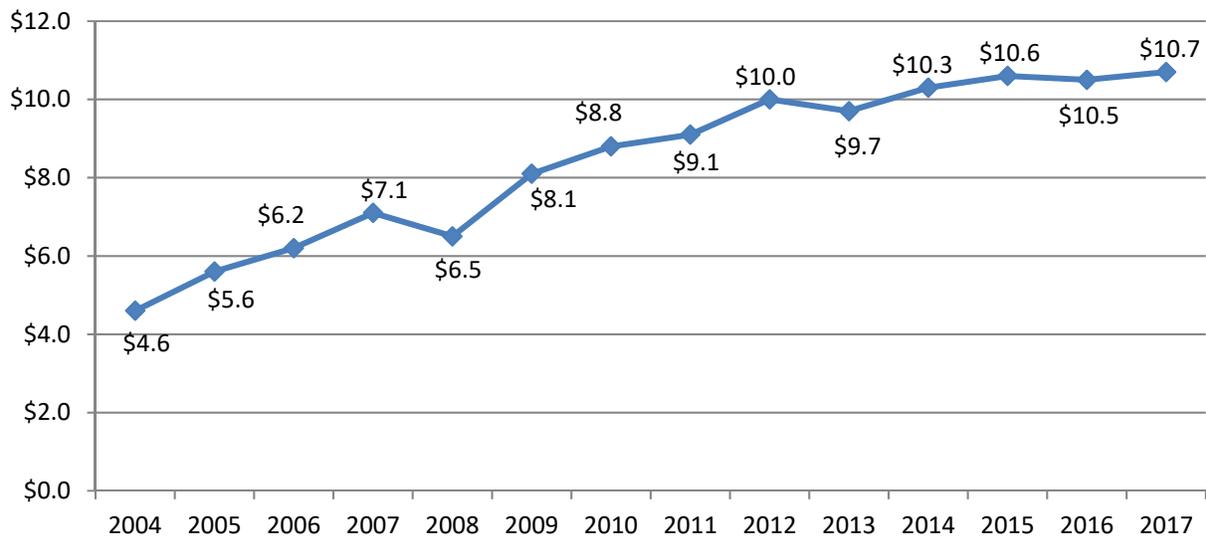
**Per Capita Costs of Pupil Transportation Services
City of Roanoke**



FY 2017 Transportation Costs per Pupil based on Average Daily Membership (ADM)



**Roanoke City Pupil Transportation Costs
In Millions**



Costs reported to the APA by other school divisions do not include expenditures for accounting, human resources, and similar indirect costs. Mountain Valley Transportation is responsible for indirect costs which are recovered through the rates billed to RCPS; costs which are ultimately reflected in the APA data for RCPS.

Based on the limitations of the APA data, Auditing performed an in depth analysis of the Division’s transportation costs based on operational and financial data reported to the VDOE by RCPS and selected peers in the region. That analysis identified opportunities to improve the quality of the data being filed and indicated RCPS’s cost per operating mile was higher than other Divisions. RCPS management and the vendor developed plans to improve planning, maintenance, and reporting. The following report provides a status on these plans, as well as some action plans from earlier audits in 2012 and 2014 that were still pending completion.

End of Background

Objective 1: Data Management Plan

In response to our observation that the GPS system was not being utilized to its full potential, management committed to the following actions:

- Implement a data management plan to review idling and speeding events.
- Maintain a log of driver behavior / exceptions.
- Develop a better understanding of the GPS system software along with the reports and data available.

Action Completed / Issues Resolved – Yes, with Qualifications

Follow Up – August 2018:

Mountain Valley Transportation has developed a GPS data management plan that provides for monitoring bus idling time and speeds in excess of posted limits. Based on discussions with management and the available documentation, actual practices deviated to some degree from the documented plan. However, the end result has been improved utilization of the capabilities of the GPS software.

Mountain Valley Transportation recently converted to a new GPS tracking software (Geotab). Management will need to adapt its current plan based on the capabilities of the new software.

End of Objective 1

Objective 2: Malfunctioning GPS Units

On April 8, 2016, we observed that five [5] GPS units had not transmitted a signal in more than 90 days. In response, management planned the following:

- Management will review the GPS Hardware Health Report each Monday to identify malfunctioning units.
- A technician will be assigned to inspect and repair malfunctioning units.
- Repairs will be communicated to the Operations Manager
- The Operations Manager will file the Hardware Health Reports and coordinate replacement units as needed.

Action Completed / Issues Resolved – No

Follow Up – August 2018:

Mountain Valley Transportation established a goal that malfunctioning GPS units would be repaired within 2 to 3 days. Using this goal as a benchmark for timely repair, we reviewed a sample of 7 daily Hardware Health Reports and 12 GPS units reported as malfunctioning. We found that none of the units were repaired within the 2 to 3 day goal.

End of Objective 2

Objective 3: Premature Inspections

In prior audits, we had noted that buses were being inspected too frequently based on any reasonable standard, including those specified by the VDOE. We included inspections in our 2016 analysis and found that inspections continued to be performed too frequently.

Management responded with the following plans:

- A goal of 45 calendar days between inspections will be established.
- A report from the bus maintenance system listing buses inspected 45 and 60 calendar days earlier will be printed every Monday morning.
- Technicians will select buses for inspection from the report and enter a repair order.
- Technicians will highlight buses on the report as the inspections are completed.
- Technicians will apply a window sticker to each bus showing the date of the inspection.
- Parts Coordinator will confirm inspection repair orders match those highlighted on the report.

Action Completed / Issues Resolved – Yes, with Qualifications

Follow Up – August 2018:

Based on inspection records from July 1, 2017 through June 30, 2018, for a random sample of fifteen [15] buses, management largely met their inspection goals:

- 90 of 98 (92%) inspections were at least 45 calendar days apart
- The average number of calendar days between inspections was 54

Management consistently used the Dossier Maintenance system to schedule inspections. We found that maintenance history in the system was consistent with inspection work orders on file in all but one case.

As we reviewed the VDOE requirements for bus inspections, we noticed that the wording was a little ambiguous. As we read the requirements more carefully, we discovered that school buses are allowed to exceed 5,000 miles or 45 school days between inspections, but cannot exceed both at any given time. A bus is allowed to go as long as 90 school days between inspections, if it travels less than 5,000 miles over that time.

Given this context, our analysis indicates an opportunity still exists to substantially reduce the number of inspections performed each year. For our sample, the average number of school days between inspections was **30** and the average elapsed mileage between inspections was **1,867**. Exceptionally low elapsed mileages between inspections were noted as follows:

Hood Number	Dates Between Inspection	# of School Days	# of Calendar Days	Miles Between Inspection
245	10/6/2017 - 10/7/2017	1	1	6
226	12/11/2017 - 1/5/2018	9	24	485
16065	5/30/2017 - 7/18/2017	23	48	445
226	6/21/2017 - 8/9/2017	26	48	328
229	6/21/2017 - 8/7/2017	26	46	1
233	5/22/2017 - 7/5/2017	27	50	2
233	11/8/2017 - 12/28/2017	27	50	2
245	6/14/2017 - 8/3/2017	29	49	419
218	6/16/2017 - 8/4/2017	29	48	1
233	7/5/2017 - 9/11/2017	31	66	167
37	3/16/2018 - 5/9/2018	32	53	0
37	1/23/2018 - 3/16/2018	36	53	0
233	9/11/2017 - 11/8/2017	39	57	352

The table above indicates that the 45 calendar day approach to scheduling inspections is less effective during summer months when the fleet is under-utilized.

Based on our sample of 15 buses, each one is inspected between 6 and 7 times per year, not including the annual inspection required by the Virginia Department of Transportation or other maintenance. For buses traveling fewer than 5,000 miles during a semester, the number of inspections could be reduced to three (3) per year. This would eliminate 3 to 4 inspections and the corresponding out of service time. Inspections can require taking a regular bus out of service and using a spare bus to run its routes.

The average inspection of a Roanoke City Public School bus is estimated to cost \$122 based on a labor rate of \$70 per hour and requiring 1.75 hours to complete. If 100 of the 165 buses in the fleet required three (3) fewer inspections annually:

- Dollar savings would exceed \$36,000
- Out of service days might be reduced by as much as 300 days
- Up to 525 direct labor hours could be saved or diverted to other tasks

As noted by Mountain Valley Transportation in previous audits, RCPS pays for transportation services based on a fixed rate schedule. Maintenance costs, including the cost of inspections, are not directly billed to RCPS and are covered by the rates charged. In order to promote efficiency, RCPS needs the ability to benchmark its costs with other school divisions.

The current contract for transportation services expires June 30, 2019. The new RFP and contract should provide for benchmarking with other school divisions on the basis of operating costs per mile.

End of Objective 3

Objective 4: Ridership Reported to VDOE

In 2016, the RCPS Director of Transportation was reporting pupil ridership estimates in a manner that was not in accordance with VDOE instructions. In response, management offered the following plan of action:

- The higher of the morning or afternoon ridership each day will be used to estimate average ridership numbers as specified by VDOE.
- Van ridership will be included in average ridership calculations.

Action Completed / Issues Resolved – No

Follow Up – August 2018:

We confirmed that students transported in vans were properly included in the 2017 ridership count. However, the average daily ridership for yellow buses was again not calculated in accordance with the guidance provided in the VDOE Pupil Transportation Data Submission Guide.

The Information Technology department was asked to develop a spreadsheet to calculate the average daily ridership on yellow bus routes, but was not provided the VDOE guidelines. The spreadsheet formulas used all head counts, morning and afternoon, for all days of the week to calculate the average daily ridership. The VDOE guidelines specify using the higher of the morning or afternoon count for each day, not the average of the two. This formula error understated the average daily ridership for RCPS.

Additionally, we noticed anomalies in the head count data as we scanned the spreadsheet used for the 2017 daily ridership estimates. A rudimentary analysis of the data, without reviewing the original source documents, identified the following:

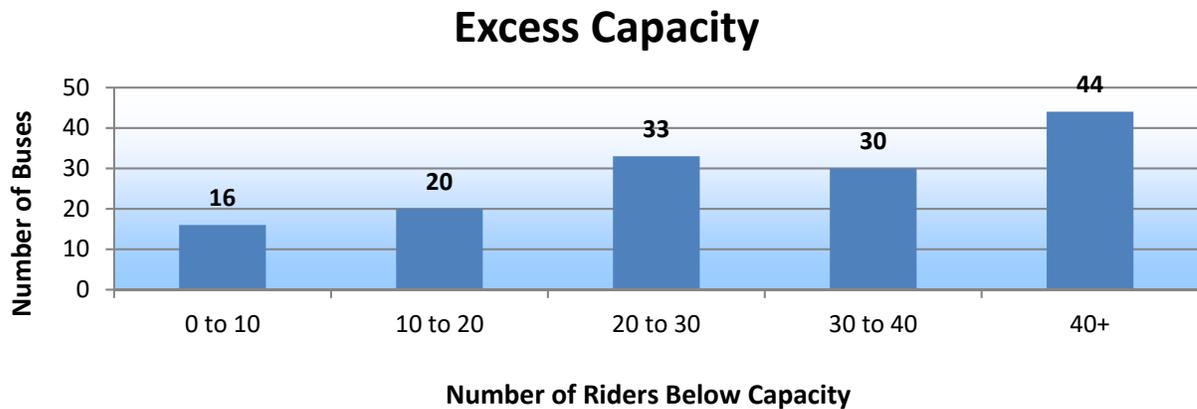
- An average daily ridership of 607 was included in the ridership estimate for two exclusive routes when the actual average ridership was 6.7
- Three mid-day routes listed an estimated mileage but reported 0 riders the entire week.
- Thirty-two routes reported at least one instance in which daily ridership exceeded bus capacity.
 - 13 of 32 exceeded bus capacity by 10 or more riders on at least one day.

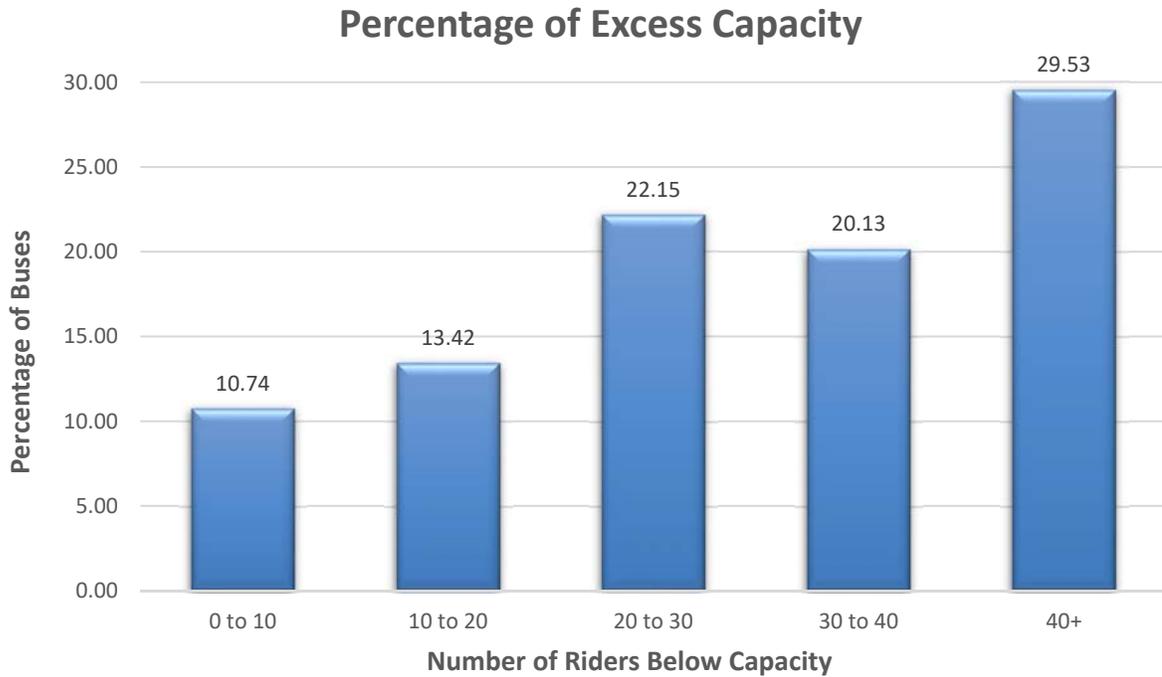
- Two routes reported 28 riders on Monday and 3 riders the remainder of the week, inflating the average daily ridership estimate by as much as 5 riders.
- One route reported as many as 62 riders and as few as 7 riders during the week, affecting the average daily ridership estimate by as much as 10 riders.
- The number of pre-k students riding each day was not specifically noted on count sheets and exclusive pre-k riders were not identified.

A comprehensive understanding of the routing process and characteristics of individual routes would be required to effectively identify all true data errors.

Excess Capacity

An analysis of average riders per bus compared to the bus capacity listed in the spreadsheet for 146 buses identified the following:





As noted earlier, the ridership data provided to us appears to include some significant errors. Taken at face value, some of the routes utilized yellow buses with far more capacity than was actually needed. Route design and the complex factors involved were not within the scope of this audit. Far more detailed analysis would be required to understand the opportunities for expanding routes or utilizing smaller buses, and the associated financial impacts. A review of the current routing methodology should be undertaken by management.

While there has been progress, additional improvements are needed to ensure average daily ridership estimates are accurate and consistent with VDOE requirements.

End of Objective 4

Objective 5: Mileage Reported to VDOE

In 2016, we noted that special trip miles were not actually tracked and were instead estimated using a formula for which the underlying logic could not be adequately explained. Additionally, there was no adjustment made for field trip miles paid with student activity funds. Management also incorrectly excluded mileage from public carriers and ten-passenger vans. The overall effect was to cause the VDOE to report an operating cost per mile for RCPS that was based on inaccurate mileage data.

In response, management developed the following plan:

- RCPS will work with Mountain Valley Transportation during the summer of 2017 to establish procedures for using GPS data to report mileage. These procedures will ensure RCPS has the level of detail necessary to report regular miles, exclusive miles, special trip miles, summer school miles and deadhead miles accurately.

Action Completed / Issues Resolved – No

Follow Up – August 2018:

Management has not developed a detailed plan that explains how data from the GPS system can be validated to be accurate and broken out in the categories specified by the VDOE.

We compared mileage reported by GPS units to mileage based on odometer readings captured during maintenance inspections for 15 buses. This data validation test assumes the mileage should be comparable:

	Bus Number	Hood Number	Total Miles - Inspection Data	Total Miles - GPS Data	Difference	% Difference
1	134	16077	11,239	11,136	103	0.91%
2	8	1406	12,801	12,773	28	0.22%
3	94	150	8,115	6,554	1,561	19.24%
4	43	202	14,536	8,417	6,119	42.10%
5	103	1401	9,080	9,208	(128)	-1.41%
6	110	226	7,591	7,698	(107)	-1.41%
7	302	16065	6,428	6,381	47	0.73%
8	34	229	8,818	8,850	(32)	-0.36%
9	91	233	5,687	3,569	2,118	37.24%
10	136	245	8,679	7,106	1,573	18.13%
11	131	223	11,874	11,956	(82)	-0.69%
12	72	218	8,800	8,694	106	1.20%

13	13	149	14,103	14,145	(42)	-0.30%
14	313	37	5,691	5,665	26	0.46%
15	128	146	18,242	17,954	288	1.58%
			151,684	140,106	11,578	7.63%

Overall, the data above indicates that GPS units may report fewer miles than odometer readings. This would be consistent with GPS units experiencing down time due to malfunctions, as observed in our testing of timely repairs / replacements of GPS units.

The most recent transportation report to the VDOE was for the 2016-17 school year. The mileage reported was estimated based on routing system data and a partial year's data from the GPS system. We are unable to provide any assurance that the estimates are materially correct given the use of GPS data.

Public carriers (taxi cab or city bus) and private carriers (RADAR, parent / guardian, etc.) used to transport students did not report their mileage.

Miles for special trips were estimated by deducting routing system mileage from GPS mileage, rather than being specifically tracked. No adjustment was made for miles paid with student activity funds.

We conclude that the GPS software is not suitably designed to provide complete and accurate mileage data by category. It is also likely that other Virginia school divisions use their routing data and odometer readings to report their mileage to the VDOE. In order to be comparable to other divisions, RCPS would need to report mileage on this same basis.

End of Objective 5

Objective 6: Public Carrier Expense

In our 2016 audit, we noted that payments to Yellow Cab Services of Roanoke, Inc. and Valley Metro for transporting students were not reported as Public Carrier expenses on the Annual School Report or the Pupil Transportation Report.

In response, management took the following actions:

- Purchase orders for Yellow Cab will be coded to the transportation function code 63200 and the public carrier object code 43341.
- Accountants communicated the changes to staff who typically enter these purchase orders.
- Purchase orders for Valley Metro will also be corrected.
- The Purchasing Department will monitor this type of purchase requisition for proper coding.
- The Accounting Department will review accounts as part of its year-end close procedures to ensure that no public carrier expenditures have erroneously been coded to functions other than transportation. Any such coding error will be corrected by journal entry prior to year-end reporting.

Action Completed / Issues Resolved – Yes

Follow Up – August 2018:

We confirmed that planned procedures were implemented. We verified that all payments to public and private carriers in FY 2017 were included in the Annual School Report and the Pupil Transportation Report.

End of Objective 6

Objective 7: Bus Aides' Salaries and Benefits

In our 2016 audit we noted that RCPS did not report FY15 salary and benefit costs for bus aides working on exclusive bus routes. This was not in accordance with VDOE instructions. We estimated that this understated exclusive transportation costs by \$1,078,085.

Management planned to begin including salary and benefit costs for applicable bus aides with the FY16 Pupil Transportation Report.

Action Completed / Issues Resolved – Yes, with Qualifications

Follow Up – August 2018:

The salary and benefit costs for all bus aides, including those not serving on exclusive routes, were included in the FY 17 Pupil Transportation Report. This overstated the FY17 transportation costs by \$277,482:

Costs for All Bus Aides	\$ 1,398,120
Costs for Exclusive Bus Aides	\$ 1,120,638
Resulting Overstatement:	\$ 277,482

End of Objective 7

Objective 8: Deadhead Miles

In our 2016 audit, we noted that miles driven without students on the buses, known as deadhead miles, were ~ 40% of all miles driven. This percentage was relatively high compared to other regional school divisions. While this percentage has been consistent over many years, we concluded it would be prudent for management to review its routing.

In response, management planned to:

- Validate deadhead miles reported from the VersaTrans routing software using mileage data reported through the GPS software.
- Finalize a procedure for gathering the GPS data by the start of the 2017-18 school year.

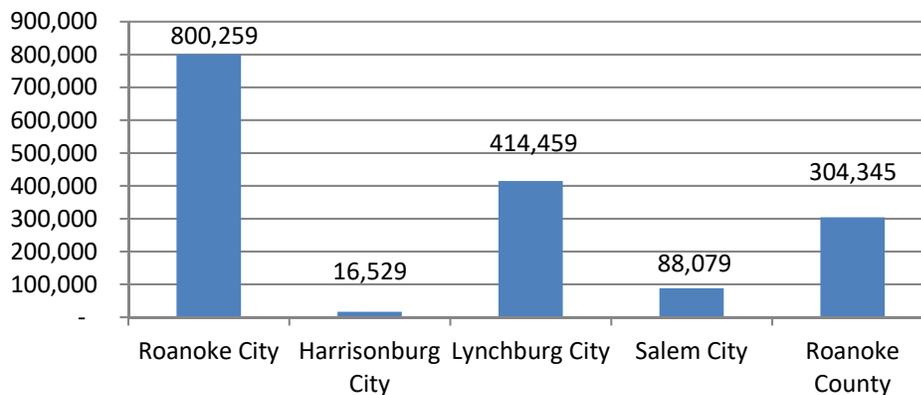
Action Completed / Issues Resolved – No

Follow Up – August 2018:

The Director of Transportation has not yet developed a plan for using GPS data to validate deadhead miles reported by the VersaTrans routing software.

We reviewed the deadhead mileage reported on the Virginia Department of Education 2016-2017 Pupil Transportation Report Superintendent's Verification Reports for RCPS and selected other school divisions in the region, consistent with our original audit:

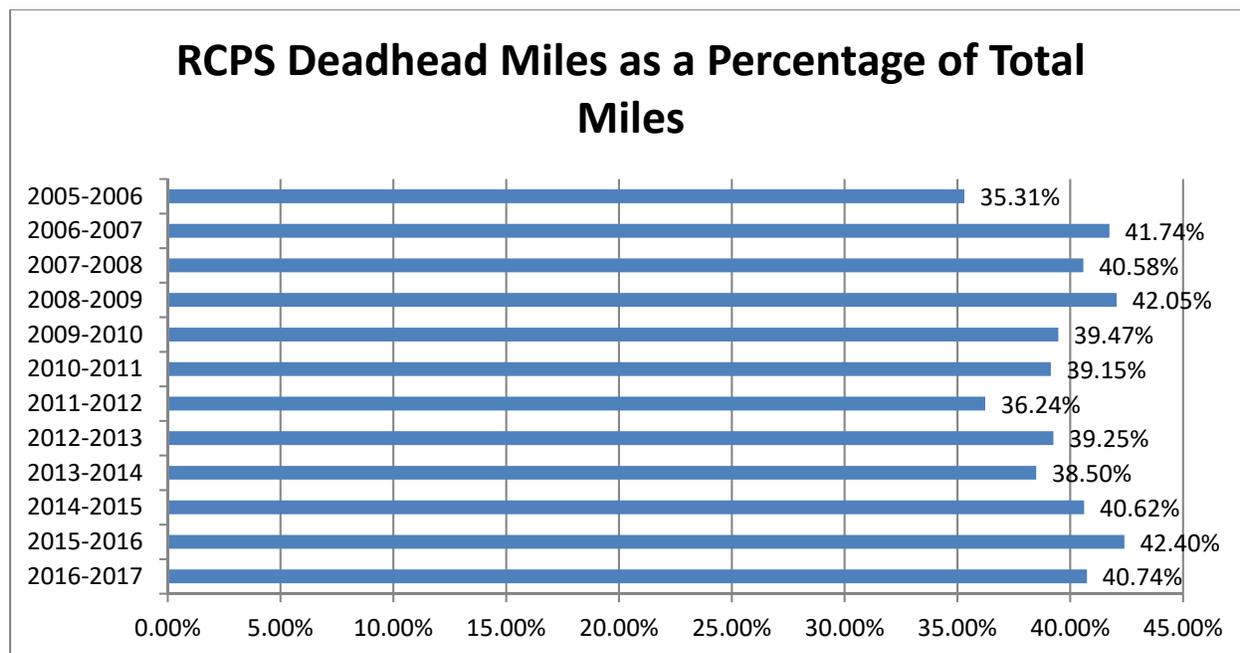
FY 2016-2017 Deadhead Miles



	Deadhead Miles		Deadhead Costs	
	Miles	% of Total Miles	Costs	% of Total Costs
Roanoke City	800,259	40.74%	\$ 4,139,893.58	35.81%
Lynchburg City	414,459	27.35%	\$ 1,229,852.87	24.96%
Salem City	88,079	25.19%	\$ 312,919.59	23.00%
Roanoke County	304,345	13.98%	\$ 727,630.85	13.14%
Harrisonburg City	16,529	3.18%	\$ 101,840.60	3.05%

It should be noted that Roanoke County reported a 284% increase in deadhead miles over the prior year. Roanoke County reviewed all of its routes when implementing a new routing software and identified errors in its prior year calculations of deadhead miles.

RCPS has been reasonably consistent in the percentage of miles reported as being deadhead miles over the last 12 years:



This persistently high deadhead mileage, in combination with other analysis showing ridership well below bus capacity on some routes, indicates a need to review routing methodology in detail. The approach to route development was outside the scope of the original audit and this follow up.

End of Objective 8

Objective 9: Capital Expenditures

In our 2016 audit, we concluded that RCPS did not have a comprehensive bus replacement policy. The agreement with Mountain Valley Transportation stipulates that no vehicle shall be in service for more than thirteen [13] years with the average age of the fleet not to exceed seven [7] years. Life cycle costs and other industry recommended criteria are not considered.

In response, management planned to:

- Extend the maximum age for buses to 14 years.
- Work with Mountain Valley Transportation to develop guidelines to look at bus age, mileage, condition of the bus, lifetime repair history and cost, bus availability and the operational environment. If Mountain Valley finds a bus that is 14 years old but has fairly low mileage, almost no maintenance problems or other positive performance features, Mountain Valley could make a recommendation to RCPS to keep the vehicle in use longer than 14 years. RCPS would make the ultimate decision on a case-by-case basis.

Action Completed / Issues Resolved – No

Follow Up – August 2018:

The current contract with Mountain Valley Transportation specifies age as the only factor to be considered in maintaining the bus fleet. The rate structure in the contract reflects this approach and any change to a more efficient model would require renegotiation of the rates to reflect lower costs. Renegotiation of rates was not addressed in management's action plan and is not something Mountain Valley Transportation has expressed an interest in discussing. There is a risk that RCPS will spend more on bus replacements than peer divisions, without an equivalent benefit being shown in terms of fuel efficiency, reliability, safety, or lower maintenance costs.

We reached out to the VDOE to inquire about guidelines for written bus replacement plans based on the data received from various school divisions. The Associate Director of Pupil Transportation responded that the VDOE does not have any guidelines or standards which govern bus replacement, and averages are not compiled based on the data submitted. He added that the average useful life of a school bus is 15 years, after which the maintenance costs typically increase significantly.

We reviewed Roanoke County Public School's and Lynchburg City Public School's websites for their bus replacement plans. Roanoke County Public Schools has a documented Bus Replacement Plan (included with its Capital Improvement Program for 2017-2026), which notes that bus replacement is based on age and condition of the bus fleet. Details about how the condition of individual buses is evaluated was not included in the plan.

We could not find a bus replacement plan on the Lynchburg City Public Schools website, and attempts to contact the Director of Transportation were not successful.

End of Objective 9

Objective 10: Cost Per Mile

Based on our cost analysis in 2016, we concluded that RCPS operational cost per mile is substantially higher than other school divisions in this region.

Management questioned the reliability of the data reported by other divisions to the VDOE, including the completeness of the division's own mileage data. There is also a belief that RCPS provides more and better transportation services to its students than other divisions. In response to our observation, management planned to:

- Develop written procedures that include the data sources used and any assumptions used to complete the Pupil Transportation Report to help ensure consistency year over year.
- Use mileage data reported from the GPS software by Mountain Valley on a daily basis.
- Work with Mountain Valley during the summer of 2017 to establish procedures for data collection and sharing to ensure RCPS has the level of detail necessary to report regular miles, exclusive miles, special trip miles, summer school miles and deadhead miles accurately.
- Begin evaluating operating cost per mile annually once a full year of GPS mileage data is available (FY18).

Action Completed / Issues Resolved – No

Follow Up – August 2018:

In lieu of creating procedures for completing the annual Pupil Transportation Report, the Director of Transportation added handwritten notations in the user's guide published by the VDOE. While the user guide defines the mileage categories and instructs school divisions on how to enter the data into the state system, it does not address how divisions capture and validate data, data sources, or assumptions specific to RCPS.

The Director of Transportation has not worked with Mountain Valley Transportation to develop procedures for utilizing the GPS software for reporting miles by category. Currently, Mountain Valley emails a Mileage Recap Report to the Director of Transportation and to the Deputy Superintendent for Operations on a monthly basis. These reports have been kept on file and will be used to prepare the FY18 Pupil Transportation Report.

As part of our follow up audit, we updated our cost analysis using the FY17 data reported to the VDOE by school divisions in October of 2017. We incorporated the following deductions from RCPS's transportation costs in an effort to normalize the data with in-sourcing divisions:

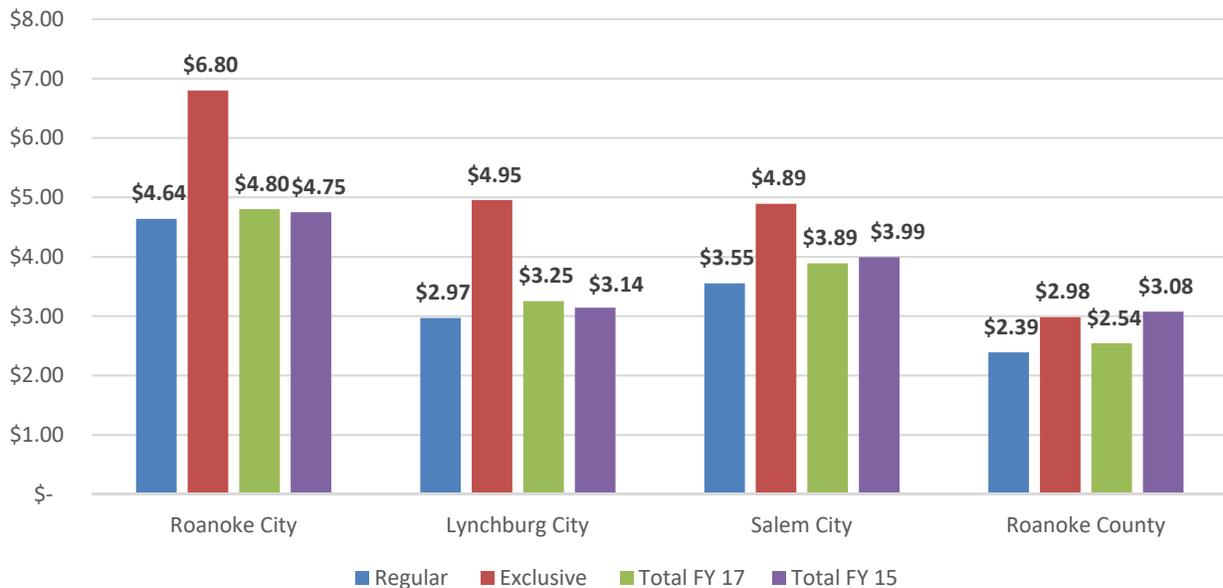
- Indirect costs such as HR, Finance, Purchasing, Facilities, etc., which are built into Mountain Valley’s billable rates
- Personal property and business license taxes paid by Mountain Valley Transportation
- Capital expenditures for buses were NOT deducted due to Mountain Valley Transportation’s refusal to provide any information on the number and costs of buses the company purchased in FY17.

This resulted in an adjustment of **\$2,197,506** that reduced overall transportation costs to **\$9,428,902**. The following table compares costs, adjustments, and mileage with the same data points in our original audit:

	FY 15	FY 17*	Change	
			\$ / #	%
Adjusted Cost	\$ 8,494,566	\$ 9,428,902	\$ 934,336	11%
Total Miles	1,788,144	1,964,232	176,088	10%
Adjusted Cost/Mile	\$ 4.75	\$ 4.80	\$ 0.05	1%

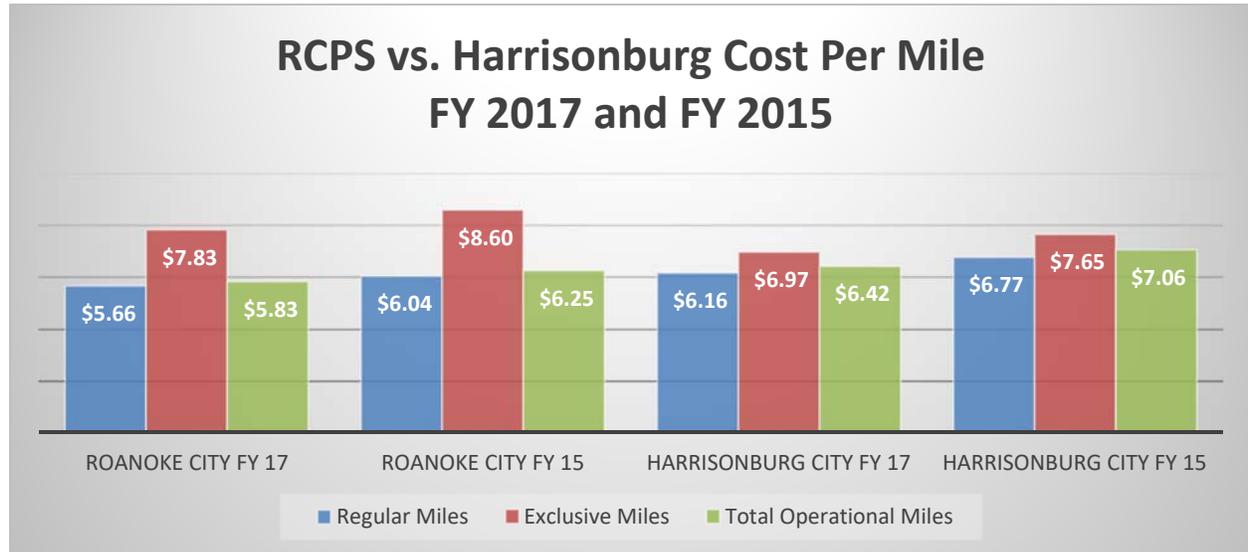
* 2017 Total Miles were based on data from the GPS system and trend based estimates. No steps were taken to validate mileage to odometer based records.

Adjusted Operating Cost Per Mile



RCPS vs. Harrisonburg

As noted in the original audit, Harrisonburg outsources school transportation to the City of Harrisonburg. For comparability, we deducted local taxes paid by Mountain Valley Transportation that the City of Harrisonburg would not have had to pay:



The next RFP for student transportation services should require that proposals break out costs consistent with how school divisions are required to report them to the VDOE. This data is necessary to enable cost comparisons with other divisions, including on an operational cost per mile basis.

End of Objective 10

Objective 11: Job Description

In our 2016 audit, we noted that the job description for the Director of Transportation had not been updated to reflect the change in responsibilities when RCPS outsourced transportation services.

Management responded that it would appropriately update the job description for the Director of Transportation.

Action Completed / Issues Resolved – Yes

Follow Up – August 2018:

The job description for the Director of Transportation was revised on August 21, 2017 to reflect the current outsourced model.

The revised job description assigns the Director responsibility for assuring efficient and effective processes are implemented for Transportation, including:

- Continuous review of best practices in other school transportation departments
- Benchmarking against best practices

The Director of Transportation has not yet begun reviewing best practices or benchmarking performance against other school divisions. He is concerned that benchmarking with other divisions would not be beneficial based on:

- Variations in operating conditions across the State
- Variations in how divisions collect and classify transportation data

The Director states that the high level of customer services provided to RCPS students naturally drives costs up.

End of Objective 11

Objective 12: Student Activity Funds

In our 2016 audit, we noted that RCPS excluded transportation costs paid out of the Principal's Discretionary Fund, the Athletics Restricted Fund, and Student Activity Funds from the total transportation costs reported in the Annual School Report. However, miles paid for by those funds were reported to the VDOE in the Pupil Transportation Report, which would cause the operating cost per mile to be understated for RCPS.

In response, management planned to:

- Exclude the mileage from field trips paid out of School Activity Funds from future Pupil Transportation Report mileage counts.
- Work with Mountain Valley Transportation during the summer of 2017 to establish procedures for collecting and sharing GPS data to ensure RCPS has the level of detail necessary to report field trip mileage and exclude those miles paid out of fiduciary funds.

Action Completed / Issues Resolved – No

Follow Up – August 2018:

Management has not yet developed a plan with Mountain Valley Transportation to report mileage data in the proper classification using the GPS software.

End of Objective 12

SUMMARY OF MANAGEMENT ACTION PLANS

Management Action Plan – Ridership Reported to Virginia Department of Education	
<i>Collect accurate ridership for reporting on the Virginia Department of Education State Transportation Report. Develop written procedures to ensure head count data is accurately collected and reported per VDOE requirements. Ensure formulas used for computing average daily ridership reflect the higher of the AM or PM ridership for each day as specified by VDOE.</i>	
Assigned To:	Target Date
Stan Crowgey, RCPS Director of Transportation	December 1, 2018
Arne Stensaker, MVT, Operations Manager	December 1, 2018

Management Action Plan – Bus Aides’ Salaries and Benefits	
<i>Review VDOE Transportation Report to ensure Aides’ salaries and benefits on EXCLUSIVE routes only, are accurately included in the VDOE Transportation Report submission.</i>	
Assigned To	Target Date
Stan Crowgey, RCPS Director of Transportation	December 1, 2018

Management Action Plan – Tracking and Reporting Mileage	
<i>Mountain Valley Transportation and RCPS Transportation will collect and maintain data using GPS, VersaTrans, and trip sheets to produce the documents needed to accurately ensure mileage data is captured, validated and reported for each classification as required by VDOE.*</i>	
<i>The upcoming RFP for Transportation Services will specify the transportation vendor will provide RCPS all transportation data required by VDOE, including supporting records.</i>	
<i>*Occasional mechanical failures will affect mileage recorded.</i>	
Assigned To	Target Date
Stan Crowgey, RCPS Director of Transportation	December 1, 2018
Arne Stensaker, MVT, Operations Manager	December 1, 2018

Management Action Plan – GPS Data Accuracy	
<i>Mountain Valley Transportation or Transportation Vendor will provide accurate data from GPS devices on buses.</i>	
Assigned To	Target Date
Mountain Valley Transportation/Transportation Vendor	July 1, 2019

Management Action Plan – Written Procedures	
<p><i>The RCPS Director of Transportation will create statements and instruction that match the VDOE Instruction Manual that will reference RCPS tools such as GPS, VersaTrans software, and driver trip sheets, etc.</i></p> <p><i>The upcoming RFP for Transportation Services will specify the transportation vendor must provide RCPS all data required by VDOE including supporting documentation.</i></p>	
Assigned To	Target Date
Stan Crowgey, RCPS Director of Transportation	December 1, 2018

Management Action Plan – Bus Replacement Planning	
<p><i>Bus replacement planning will be addressed in the new RFP requirements for bus replacement planning.</i></p>	
Assigned To	Target Date
RCPS Department of Purchasing/RCPS Transportation	March 1, 2019

Management Action Plan – GPS Unit Repairs	
<p><i>Mountain Valley Transportation or Transportation Vendor to check/review GPS units on a scheduled basis and perform needed repairs or replacements in a timely manner.</i></p>	
Assigned To	Target Date
Mountain Valley Transportation/Transportation Vendor	July 1, 2019

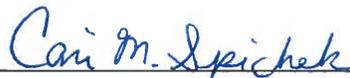
End of SUMMARY OF MANAGEMENT ACTION PLANS

MANAGEMENT COMMENTS

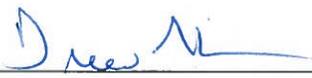
NONE

ACKNOWLEDGEMENTS

We would like to thank Stan Crowgey for his assistance throughout this review. We would also like to thank Mountain Valley Transportation personnel, specifically Randy Williams, Arne Stensaker, and Garry Klaiber for their time and input.



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