STUDENT TRANSPORTATION BENCHMARKING SURVEY

Michigan School Business Officials

in conjunction with

Management Partnership Services, Inc.

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Executive Summary

The 2011 Student Transportation Benchmarking Survey represents the third iteration of the highly unique effort to assess the costs and operational practices of transportation operations across the State. A total of 142 school districts and intermediate school districts from across all areas of the State responded to the survey. The responding entities represented 33 percent of all transportation costs, 32 percent of all buses driven across the state; and 36 percent of total students transported. Overall, the "typical" district that responded to the survey was a district operated transportation program that expended approximately $1.8 million utilizing 33 buses in a single bell system and transported slightly less than 2,000 students. These values would indicate that a reasonably representative sample of operations is included in the survey results.

Over the five year period that these three surveys have been conducted, noticeable changes in the transportation landscape have occurred. In non-inflation adjusted dollars, total statewide transportation expenditures have increased by over $31 million while total district expenditures have actually been reduced by $23 million. The total number of riders reported by school districts and ISDs over this period has dropped 3.5 percent from 799,628 in 2005 to 771,458 in 2009. Over this same five year time period, the number of buses increased slightly from 14,489 to 14,802.

Of particular note in the reported data are special needs student costs and counts. On an unadjusted basis, there has been a 12 percent increase in special needs transportation costs despite a 2 percent decrease in total students transported. The specific detail provided in the SE-4094 indicates that the number of buses in use to transport special needs students has essentially remained the same over the five year period, but the mix of vehicles has changed significantly. There has been a 19 percent increase in the number of contracted buses, a 97 percent increase in the number of taxis, and a 6 percent decrease in the number of district owned buses. All of this data would appear to indicate that special needs transportation has become more complicated and resulted in an increase in the number of limited rider vehicles. This provides insight into the increased cost per student. It would also seem to imply that greater coordination between transportation providers and special needs coordinators will be necessary to control future cost increases.

The increased presence of transportation contractors is also evident in both the number of assets reported and the cost of these services. Public entity owned vehicles continues to be the overwhelmingly dominant method of providing services, but the total number of units has decreased by almost 2 percent. The number of contracted assets, not including taxi services, has increased 35 percent over the same time period. The impact of this continued shift should be an on-going point of analysis in the future.

The respondents had an overall average cost per rider of $909, which represented a 5 percent decrease over the 2009 value. The continued disparity between special needs and regular

education rider costs is a challenge that will require on-going management attention. Cost data indicates that it is 7 to 10 times more expensive to transport a special needs student, which is consistent with the 2009 survey.

Average per bus cost of $53,531 represents a nearly 10 percent decline relative to the 2009 results. The 2009 survey had indicated a significant increase (24 percent on the average cost and 14 percent on the median cost) in per bus costs over the 2007 levels and this survey's values returned to 2007 levels. One item of note in these figures and tables is the relative shift in the highest cost groups. The difference between the Southeast region and the rest of the State has narrowed noticeably in this survey for the first time. Additionally, the shift in highest costs away from the largest operations (in terms of both riders and buses) to more middle size organizations is unique to this survey. Whether this is reflective of the sample of districts included in this survey or some larger trends will be an issue requiring on-going assessment.

Routing efficiency metrics indicate an overall reduction in relative efficiency, on average. Metrics related to the efficiency of asset use (daily runs per bus) and seating capacity use (simple capacity use) both indicate noticeable declines. These values translated into increases in the number of buses required to transport 100 students across four of the six regions of the state. The importance of routing efficiency to future cost control efforts should cause transportation managers and other stakeholders to pay particular attention to changes in these metrics.

Fleet management indicators show two unmistakable trends. The first is that school bus fleets across the state are getting older and being driven more miles. The second is that fleet maintenance operations are becoming smaller as the number of technicians is being reduced. The impact of these two factors on cost and service reliability is difficult to measure in the immediate term, but it certainly represents a long-term consideration for transportation professionals.

As cost pressures continue to mount and service expectations continue to increase, the use of performance measurement can help guide districts in their evaluation of changes to how transportation is provided. The trend data offered by three surveys over a five year period provides valuable comparative indicators in critical areas of cost and service provision. Evaluating the relationship among a group of related measures in conjunction with an understanding of the operational environment will continue to provide useful information for rational, business-case decision making regarding an operation.

Introduction

The Michigan School Business Officials (MSBO) began surveying transportation operations in 2007 as part of a unique effort to establish a consistent and quantifiable method to assessing student transportation. Throughout the survey process the objectives of this effort have always been to:

1. Define a series of relevant indicators of operational performance.
2. Develop a mechanism whereby districts will be able to compare their performance internally and to comparable districts across the state.
3. Increase the availability of quantitative measures to evaluate operational performance.
4. Identify best management practices through analysis and interpretation of survey results.
5. Establish a mechanism to evaluate the impact of changes in policies or practices on transportation efficiency and cost effectiveness.

Using data reported to the State as part of the SE-4094 and supplemental data captured during the survey process, a collection of input and output measures have provided a statistical profile of student transportation across the State. Inputs such as the cost of services and the number of students transported were used to calculate output indicators such as the cost per student transported and cost per bus used. Over the past five years, these output indicators have begun to provide greater understanding of the outcomes associated with how school districts and Intermediate School Districts are addressing the fiscal pressures they have experienced.

Given the available data and the persistent fiscal pressures, the survey reports have tended to focus heavily on cost related and efficiency indicators. This report will continue that theme while also providing a broader perspective on the trends evident over the past five years. The combination of these two efforts offers unique insight into the provision of transportation services across Michigan.

The survey was conducted in conjunction with the Michigan Department of Education and Management Partnership Services, Inc.

Survey Results

The results of this survey were derived from two primary data sources:

- The 2008 – 2009 SE-4094
- The 2011 Transportation Benchmarking Survey

The SE-4094 is submitted annually by school districts across Michigan. It includes data on transportation costs, service volumes (number of buses, total miles traveled, and students transported), and personnel data. The transportation survey was conducted in April 2011. The

survey collected data on the number of bus trips, fleet maintenance staffing, service delivery type, and transportation policy information. All of the analyses presented below represent a blend of regular education and special education costs and resources requirements, except where noted.

Of the 575 local education agencies and intermediate school districts who submitted results for the SE-4094, 142 (25 percent) responded to the survey. Of the 142 respondents, 52 operations responded to an MSBO survey for the first time and 37 organizations have responded to all three MSBO transportation surveys. The districts who responded represented nearly 33 percent of all costs; 32 percent of all buses driven across the state; and 36 percent of total students transported. The following tables summarize the responses by the number of students transported and the size of the bus fleet.

Table 1: Responses by number of students transported

Students Transported	Respondents	% of Total[1]
<=1000	59	42%
1,001 to 2,000	47	33%
2,001 to 3,000	11	8%
3,001 to 4,000	8	6%
4,001 to 5,000	6	4%
5,001 to 6,000	3	2%
6,001 to 7,000	1	0%
7,001 to 8,000	1	0%
>=8,001	6	4%
Total	**142**	

Table 2: Responses by fleet size

Fleet Size	Respondents	% of Total
<= 25	87	61%
26 to 50	30	21%
51 to 75	10	7%
76 to 100	6	4%
>=101	9	6%
Total	**142**	

Overall, the "typical" district that responded to the survey was a district operated transportation program that expended approximately $1.8 million utilizing 33 buses in a single bell system and

[1] Percentages may not add to 100 due to rounding.

transported slightly less than 2,000 students. These values are reasonably comparable to statewide data available in the SE-4094 that indicated average expenditures of $1.2 million and used 25 buses to transport 1,400 students.

Five year history of transportation expenditures

Transportation services represent an important component of educational service delivery by providing students access to services they may not otherwise have. The state-wide data demonstrates three clear trends:

- A reduction in demand, based on the number of students to be transported, has not translated to reductions in cost.
- The cost of special needs services continues to represent a significant difference in unit cost over regular home-to-school costs.
- There has been a noticeable increase in contractor presence across the state.

Based on 2009 statewide data available from the SE-4094 and other publicly available data, the cost of transportation represents 4.3 percent of all education expenditures. While the data sources are not exactly similar, this value is consistent with statewide figures that have been reported in states such as Pennsylvania, Illinois and New York and with the Province of Ontario. However, it is notable that in non-inflation adjusted dollars, total statewide transportation expenditures have increased by over $31 million (from $733 million to $765 million) while total district expenditures have actually been reduced by $23 million (from $17.874 billion to $17.851 billion). This has resulted in an increase in the proportion of transportation-related expenditures relative to total district expenditures of 0.2 percent over the previous five years.

From 2005 to 2009, the total number of riders reported by school districts and ISDs has dropped 3.5 percent from 799,628 in 2005 to 771,458 in 2009. Over this same five year time period, the number of buses increased slightly from 14,489 to 14,802. These basic statistics provide an indication that cost per rider and cost per bus have increased over this time period. This output is consistent with previous survey results. The cost per rider has increased, on average, $917 to $991 per rider and from $50,605 $51,660 per bus.

The cause of the increased cost is difficult to absolutely isolate, however, the SE-4094 data does provide an indication of why costs have increased despite a decrease in student demand and an only slight increase in the number of assets in use. Of particular note in the reported data are special needs student costs and counts. On an unadjusted basis, there has been a 12 percent increase in special needs transportation costs despite a 2 percent decrease in total students transported. The 2009 survey indicated that the average cost to transport a special needs student was 10 times greater than a regular home-to-school student. This ratio has generally held true over the five year period.

The specific detail provided in the SE-4094 indicates that the number of buses in use to transport special needs students has essentially remained the same over the five year period, but the mix of vehicles has changed significantly. This has resulted in a decrease from 10.5 riders per vehicle to 8.9 riders per vehicle. In addition, there has been a 19 percent increase in the number of contracted buses, a 97 percent increase in the number of taxis, and a 6 percent decrease in the number of district owned buses. All of this data would appear to indicate that special needs transportation has become more complicated and resulted in an increase in the number of limited rider vehicles. This provides insight into the increased cost per student. It would also seem to imply that greater coordination between transportation providers and special needs coordinators will be necessary to control future cost increases.

The increased presence of transportation contractors is evident in both the number of assets reported and the cost of these services. As was mentioned above, the percent of contracted assets used to transport special needs students has increased 19 percent since 2005. The total number of contracted assets (including both special needs and regular home-to-school), not including taxi services, has increased 35 percent from 1,603 in 2005 to 2,168 in 2009. Over this same time period, the number of public entity owned vehicles decreased by almost 2 percent from 12,887 to 12,635. While public entity owned vehicles continues to be the overwhelmingly dominant method of providing services, the impact of this continued shift should be an on-going point of analysis in the future.

Structure of the report

The remainder of the report is organized into two sections. The first section details the performance indicators related to transportation operations. These measures include:

- Cost per rider
- Cost per bus
- Buses per 100 students
- Capacity utilization
- Runs per bus

The second section focuses on fleet management and maintenance practices. Within this section, the following indicators are included:

- Buses per technician
- Vehicle equivalent units per technician
- Fleet age and mileage

Throughout this report both the average and median values are provided for each metric where possible. The average represents the arithmetic mean of all values in the set. This value is very sensitive to the influence of very large or very small relative values in the set and would, if looked at in isolation, provide an incomplete and potentially inaccurate perception of performance in the specific areas. In order to understand whether very large or small values were impacting the average, the median value was also calculated where the data provided

allowed. The median represents the point where exactly half of the values in the set would be smaller and half would be larger than this value. The median is not impacted by the extremely large or small values in the set and presents a reasonable representation of the “average” value of a group of data, provided that most of the values are clustered around the median. In addition to the current year values, analyses from the previous three surveys over the last five years are presented to provide additional insight into the results.

Transportation Operations Indicators

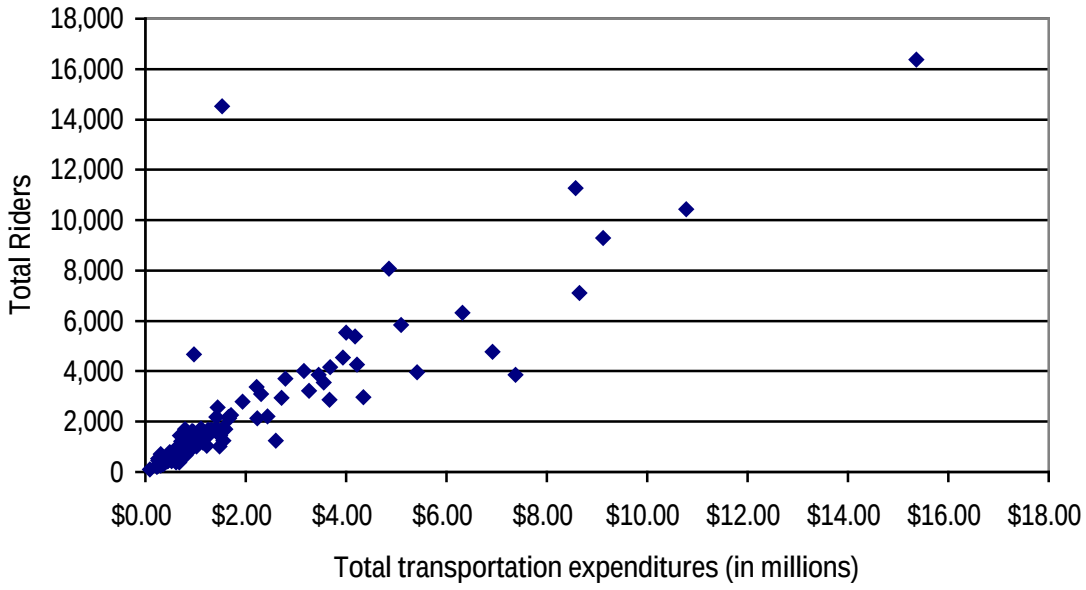
Transportation expenditures are driven by a complex interaction of controllable and un-controllable factors such as the effects of topography, student density, traffic, board policies, school locations and bell times. Designing a routing scheme that efficiently and effectively delivers services within these constraints requires balancing the number of students who ride a given bus and how many times that given bus is used throughout a service day. An operation that is able to design bus runs and routes to transport more students on fewer buses will generally, all other factors being equal, have lower costs than its peer organizations. Therefore, fully understanding transportation requires an understanding of both cost and operational performance.

The survey evaluated two key cost-related metrics (cost per rider and cost per bus) and three routing related metrics (buses used per 100 riders and simple capacity use, and daily runs per bus). The combination of these five metrics and the additional survey data provide insight into the cost of services for a variety of student groups. From these results it is possible to identify the impact of various routing strategies on costs and service.

Cost per rider

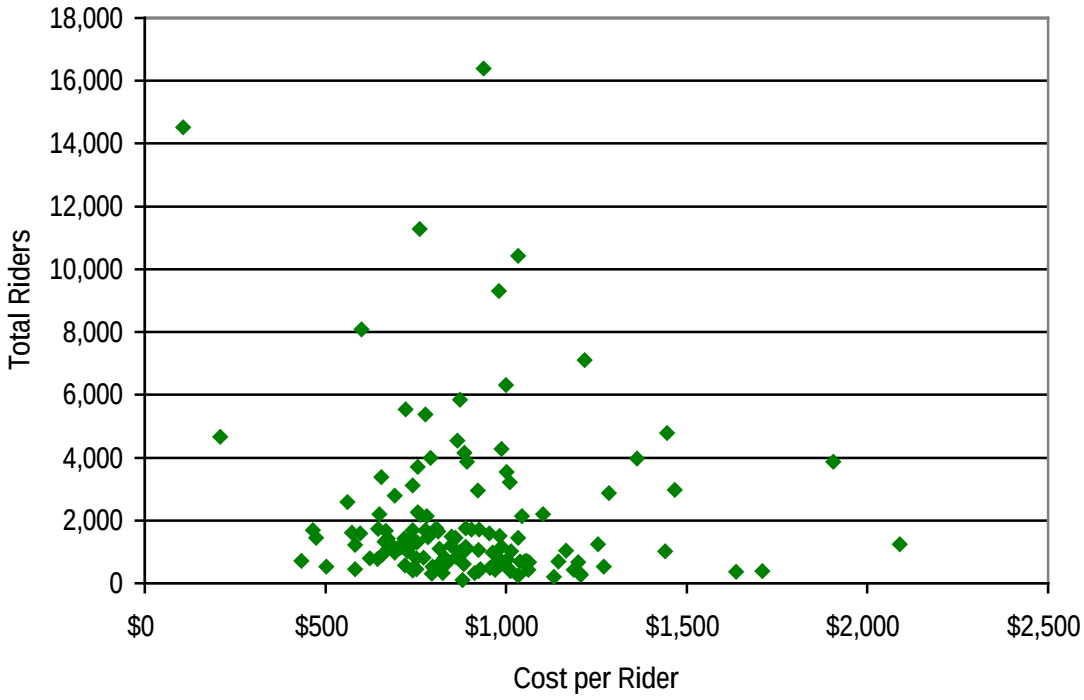
It is not unexpected that as the number of students being transported increases, the total expenditures associated with transportation increase. This relationship is evident in the chart below that shows total transportation expenditures relative to the number of students being transported for the respondents to the survey.

Figure 1: Total transportation expenditures relative to total riders



Transportation operations are in the business of moving students efficiently and effectively. In order to assess efficiency, cost per rider is the critical measure that provides insight into routing efficiency and cost control mechanisms. In an environment where a variety of routing techniques are used to transport the maximum number of students in the fewest number of buses, we would expect to see a decreasing unit cost (cost per rider in this case). However, the cost per rider chart below does not provide clear evidence of this decreasing cost per student as the number of riders increases.

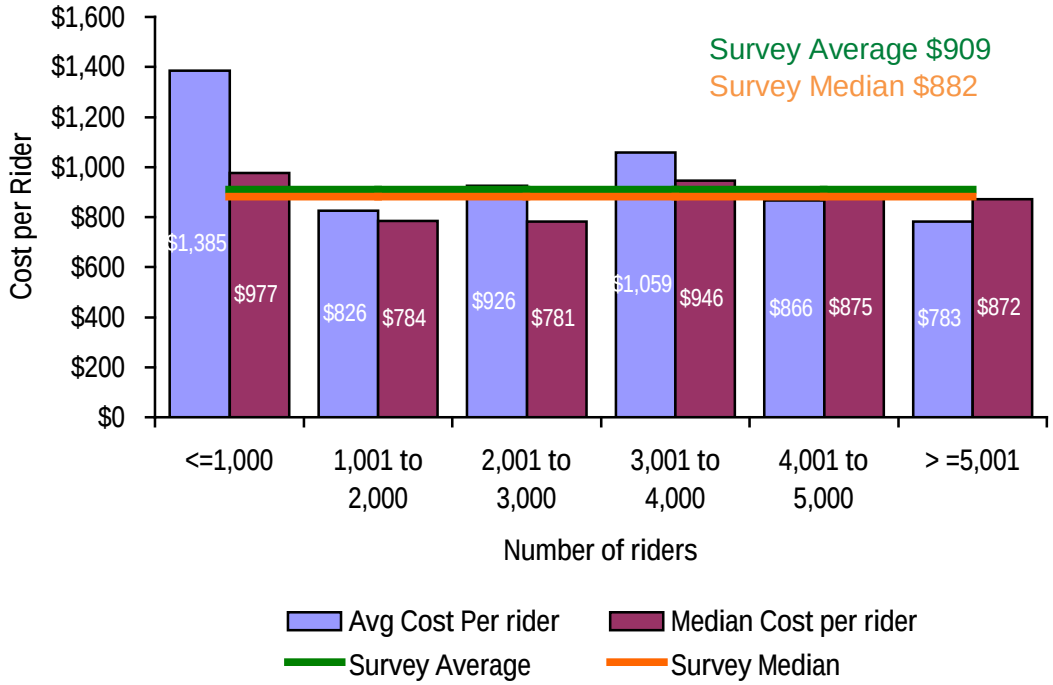
Figure 2: Cost per rider



Figures 1 and 2 provide some insight into why the expected “downhill” relationship between increased riders and cost per rider is not evident in the results. The predominance of survey respondents (106 of 142; 75 percent) transport less than 2,000 students, expend less than $2 million dollars and have an average cost per rider between $500 and $1,000. The relatively limited scope of these operations may be preventing the implementation of efficiency techniques that would result in increased efficiency.

When respondents are grouped by the total number of riders it does appear that smaller operations have higher average costs per rider. These results are similar to the 2007 and 2009 results. Figure 3 below shows average and median cost per rider by number of riders.

Figure 3: Average and median cost per rider grouped by rider count



Of particular note, the $909 average cost per rider represents a 5 percent reduction from the 2009 survey report.

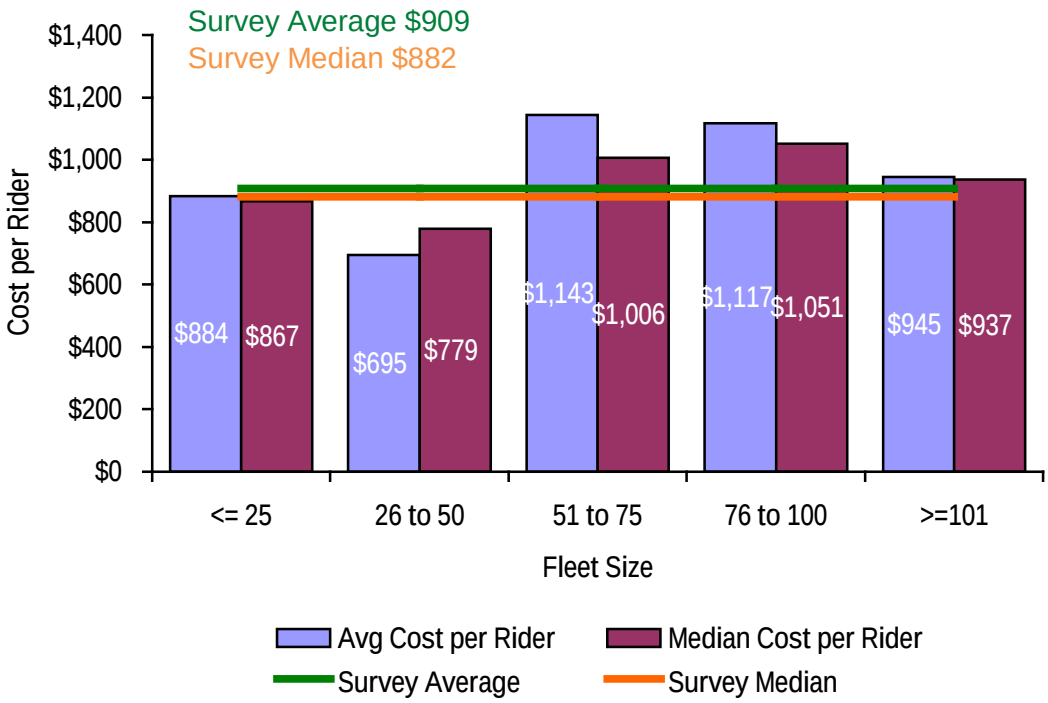
The survey collected information on routing techniques in place in order to determine how districts where trying to control costs. It is evident from this data that the smallest districts, in terms of riders, were the least likely to be able to use the critical routing efficiency technique of tiering. Of the 76 districts using tiered routing, only 8 (10 percent) had 1,000 or fewer students. This would seem to indicate that there are certain constraints associated with smaller operations that may make it more difficult to control costs. This is probably due to an inability to amortize the fixed cost of providing services (primarily the costs associated with owning the bus and providing the driver) over a large number of students.

As with previous surveys, the cost of benefits represents a significant cost of operations. The average per rider cost associated with benefits for the survey respondents is $230. For operations under 1,000 students the average cost of benefits per rider is $293. The only other instance where the cost per rider is greater than the average is for districts with 3,001 to 4,000 riders, where the benefit cost is $303 per rider. This is also the only rider grouping where the average and median cost per rider is greater than the survey average and median.

When respondents are grouped by fleet size, the impact of benefits costs on average cost per rider is equally evident. The average per rider cost of benefits is $230, but for fleets of 51 buses or larger the average cost of benefits is $281, $321 and $273, respectively. Given that the average number of riders in these groups is two to four times greater than the average number

of riders, the incremental cost has a significant impact on both average and total costs. Figure 4 below shows the average cost per rider by fleet size.

Figure 4: Average and median cost per rider by fleet size



Per rider costs associated with special needs students continue to be significantly higher than non-special needs riders. In the 2009 survey, the average cost for a special needs rider was 10 times that of a regular education rider. That value continues to hold generally true through this survey. The table below summarizes the average cost per rider for regular education and special needs by rider grouping.

Table 3: Average Rider cost by student type

Students Transported	Average Regular Education Cost per Rider	Average Special Needs Cost per Rider
<=1000	$836	$7,125
1,001 to 2,000	$740	$3,494
2,001 to 3,000	$750	$5,851
3,001 to 4,000	$785	$8,223
4,001 to 5,000	$654	$5,504
>= 5,001	$584	$7,423
Overall Average	**$690**	**$6,348**

Table 4 below summarizes average and median costs per rider by region. The table continues to demonstrate the disproportionate nature of special needs costs. This has also been the case

in previous surveys. However, it also demonstrates that selected respondents from the Northern Lower Peninsula region have particularly high average costs for special needs students. Analysis of median values indicates that special needs rider costs are approximately seven times of regular education riders.

Table 4: Cost per rider by region

Region	Count of responses	Regular Education		Special Education		All Transportation[2]	
		Average	Median	Average	Median	Average	Median
Upper Peninsula	8	$765	$778	$2,320	$1,517	$800	$809
Northern Lower Peninsula	20	$902	$913	$8,601	$6,739	$1,013	$918
Western	37	$564	$734	$5,379	$4,929	$705	$777
Thumb and surrounding area	21	$739	$744	$5,219	$5,955	$1,070	$850
South central	23	$739	$778	$6,218	$6,107	$906	$860
Southeast	33	$699	$772	$7,079	$7,959	$967	$987
Survey Totals	**142**	**$690**	**$763**	**$6,348**	**$5,916**	**$909**	**$882**

The continued disparity between special needs and regular education rider costs is a challenge that will require on-going management attention. Districts should continue to make every effort to find innovative ways to transport special needs students in order to mitigate the impact on total costs. This is particularly true for smaller operations where the impact of even one high need special education student can dramatically increase total costs.

Cost per Bus

Cost per bus analyses are generally conducted to evaluate the efficacy of changing service providers. Typically, when school districts release a Request for Proposal for transportation services, the pricing mechanism used is a cost per bus based on some unit of services (i.e., cost per day, cost per hour, and cost per block of hours). The increase in the percentage of contracted services has made understanding the cost of operating an individual school bus an increasingly relevant concern for operations across the state.

The 2009 survey indicated a significant increase (24 percent on the average cost and 14 percent on the median cost) in per bus costs. However, this survey indicates a nearly 10 percent reduction in the average and median costs per bus over the 2009 results. The cause

[2] All Transportation represents the combined totals of regular and special education transportation.

of this reduction is not clear, but it is likely the result of a combination of efficiency efforts and cost reductions associated with regular education transportation. Tables 5 and 6 below summarize the cost per bus by region and the cost per rider by ridership grouping, respectively.

Table 5: Cost per bus by region

Region	Responses	Regular Education		Special Education		All Transportation	
		Average	Median	Average	Median	Average	Median
Upper Peninsula	8	$38,594	$35,506	$38,565	$21,753	$38,592	$34,254
Northern Lower Peninsula	20	$42,409	$34,918	$69,940	$44,136	$44,570	$35,164
Western	37	$46,345	$45,930	$65,280	$54,946	$49,554	$44,060
Thumb and surrounding area	21	$46,716	$53,129	$73,618	$59,661	$53,801	$52,867
South central	23	$41,949	$41,964	$71,080	$64,428	$45,897	$45,095
Southeast	33	$57,344	$60,436	$65,373	$64,714	$59,597	$53,606
Survey Totals	**142**	**$49,868**	**$46,064**	**$66,807**	**$57,820**	**$53,531**	**$45,195**

Table 6: Cost per bus by ridership group

Number of Riders	Responses	Regular Education		Special Education		All Transportation	
		Average	Median	Average	Median	Average	Median
< =1,000	59	$34,668	$37,379	$75,054	$55,757	$45,703	$39,858
1,001 to 2,000	47	$48,301	$52,816	$51,277	$46,730	$48,674	$51,855
2,001 to 3,000	11	$49,840	$49,853	$66,265	$66,046	$52,686	$51,049
3,001 to 4,000	8	$63,212	$61,614	$76,703	$72,486	$66,555	$63,589
4,001 to 5,000	6	$38,946	$53,111	$44,882	$60,713	$40,435	$53,796
> = 5,001	11	$62,591	$60,436	$74,026	$79,964	$65,383	$60,934
Survey Totals	**142**	**$49,868**	**$46,064**	**$66,807**	**$57,820**	**$53,531**	**$45,195**

One item of note in these figures and tables is the relative shift in the highest cost groups. The difference between the Southeast region and the rest of the State has narrowed noticeably in this survey for the first time. Additionally, the shift in highest costs away from the largest operations (in terms of both riders and buses) to more middle size organizations is unique to this survey. Whether this is reflective of the sample of districts included in this survey or some larger trends will be an issue requiring on-going assessment.

Buses per 100 riders

One measure that combines the principles associated with filling and reusing a bus is to evaluate the number of buses required to transport 100 riders. The principle of this measure is that in order to transport 100 students with one or fewer buses, it will be necessary to establish a multi-tier system that allows a bus to be reused. In addition, it would be necessary to place a sufficient number of students on the bus. Consequently, if a district were able to average 1.0 to 1.25 buses or less to transport 100 students it would be an indication of both effective capacity utilization and asset reuse.

Similar to the previous surveys, the respondents indicated that a two tier bell structure that transports elementary school students by themselves and middle and high school students together is the most common structure. Also evident is that the smallest systems use a single tier structure while the largest systems use a three tier structure. Consequently, it could be expected that larger operations would have the lowest buses per 100 rider values because they have the most opportunity to reuse assets and the smallest should have the highest values.

The three figures below summarize the average buses required to transport 100 riders since the 2007 survey. They generally exhibit the pattern expected for the largest and smallest operations and for the most urbanized and rural areas. However, it is the operations in the middle regions that exhibit the most interesting results.

Figure 5: Buses per 100 riders by region

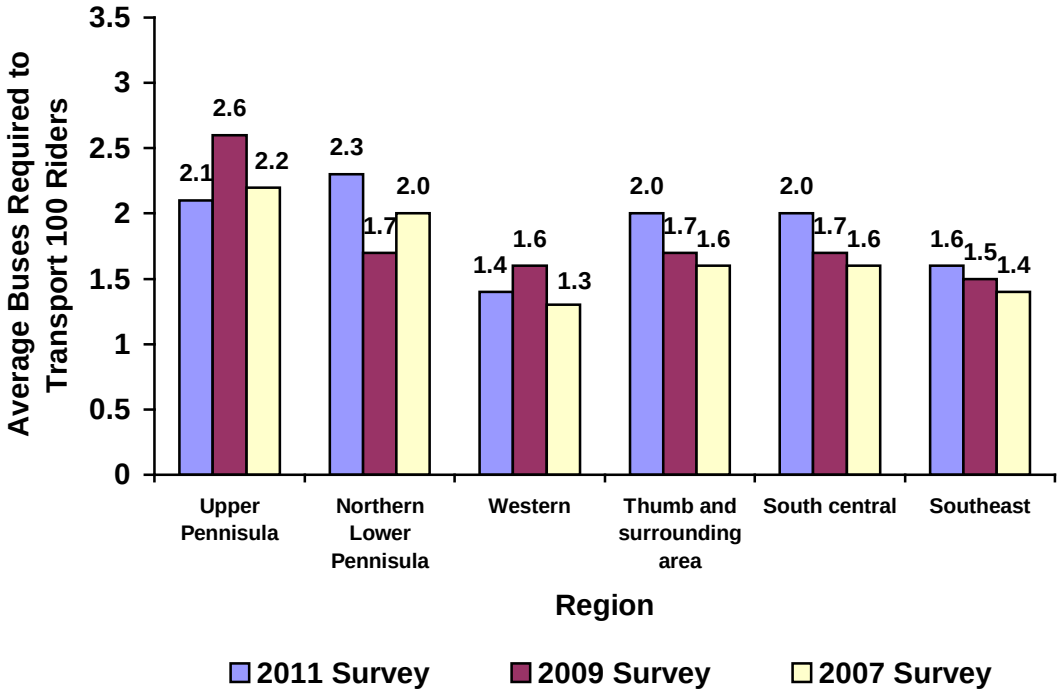


Figure 6: Buses per 100 riders by rider group

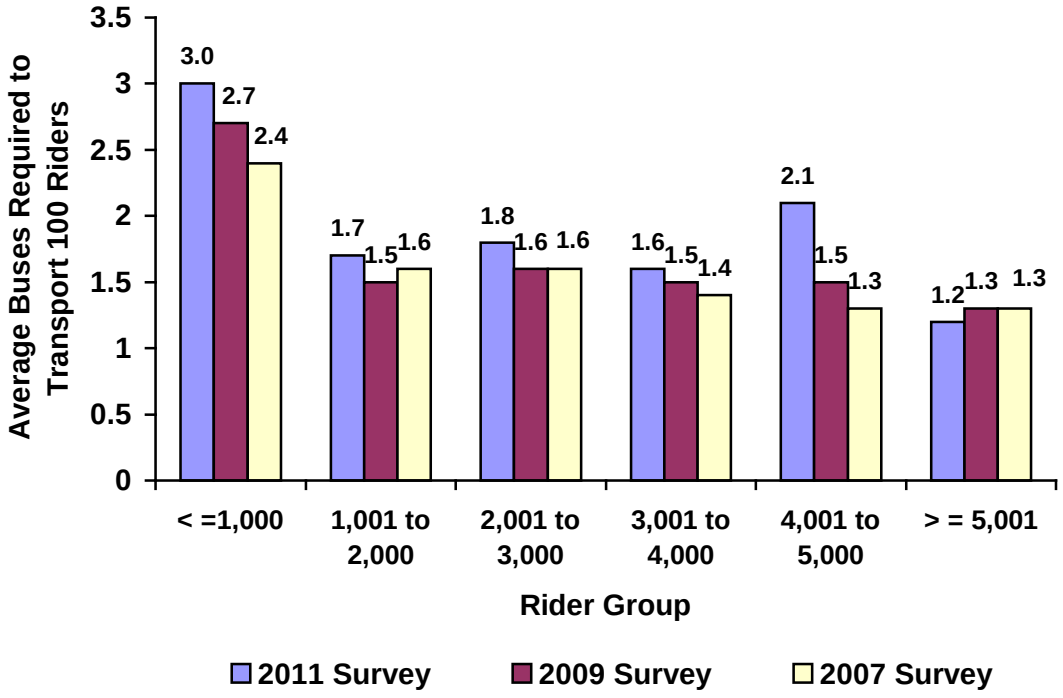
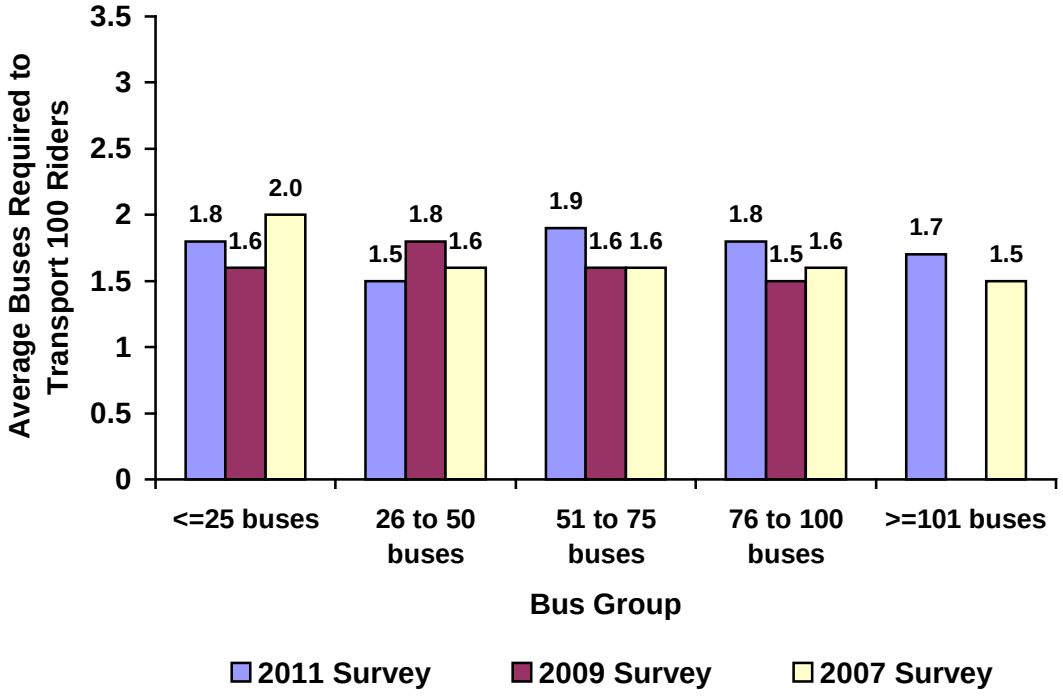


Figure 7: Buses per 100 riders by fleet size



Keeping in mind that a lower value indicates greater efficiency, the figures above offers a number of interesting insights. In the 2011 survey the average buses per 100 students is 1.7. This value indicates a slight decrease in average efficiency since the 2009 and 2007 survey. This is due primarily to a significant decrease in efficiency in the less than 1,000 student and in the 3,001 to 5,000 rider range. Additionally, operations with 51 or more buses exhibit decreased efficiency and higher costs. Determining whether this is specific to the sample of districts that responded to the survey or is emblematic of a more systemic shift will require further analysis.

Simple Capacity Use

Simple capacity use is a measure of the efficiency of the routing scheme based on the number of seats that are occupied by riders. A value over 100 percent would indicate asset reuse or overbooking in the system. The survey asked respondents to indicate the total number of seats available within the bus fleet. A total of 130 of the 142 provided sufficient data to assess simple capacity use. In 2011, the average of the respondents was 110 percent. The following figures demonstrate simple capacity use by region and fleet size.

Figure 8: Simple capacity use by region

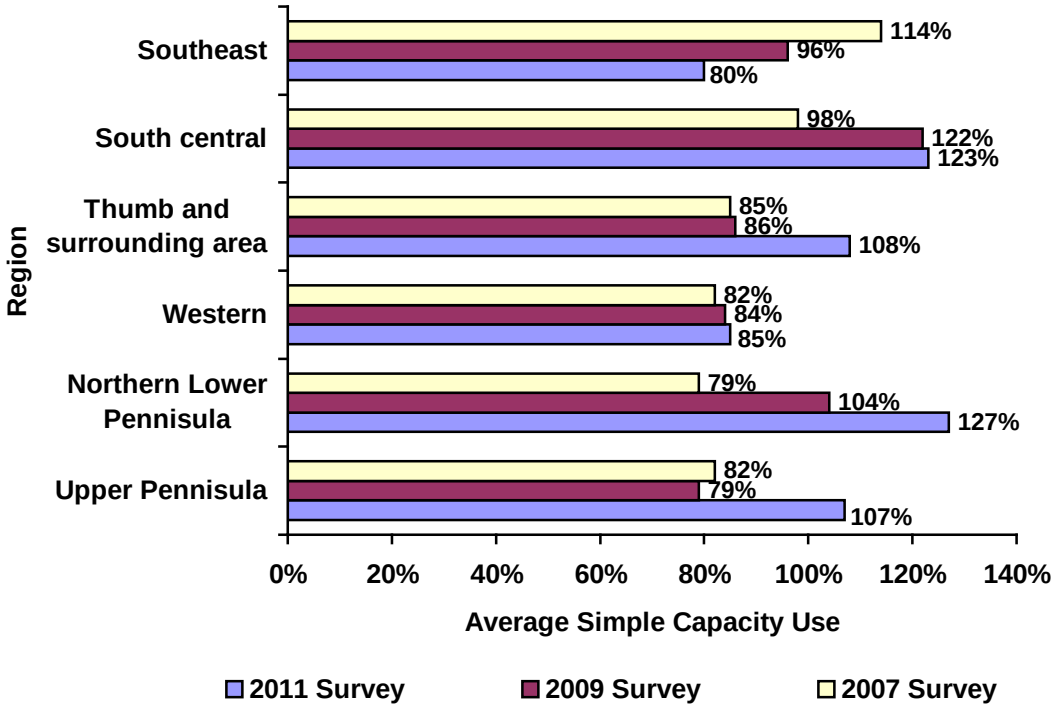
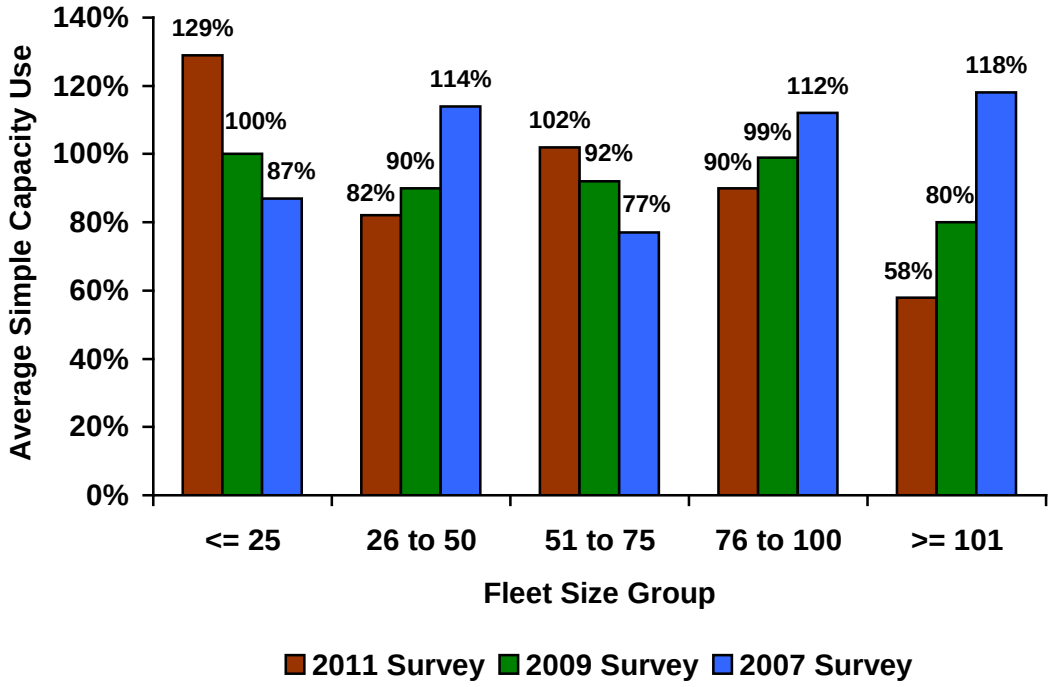


Figure 9: Simple capacity use by fleet size



The significant reduction in capacity use among the largest fleets and those in the most densely populated regions of the state help explain the increase in the buses per 100 riders values. While inflation certainly has had an impact, this decreasing efficiency of capacity use is also contributing to the increase in cost per student when compared to the 2007 and 2009 surveys. Conversely, the changes in average capacity use for smaller fleets and those in less dense areas such as the Thumb and Surrounding Areas and the Northern Lower Peninsula did not translate into similar improvements in buses per 100 riders.

Daily Runs per Bus

The number of runs a bus can perform in a day is generally limited by the type of bell structure in place at a given school district. A total of 125 respondents provided data on their bell structure. The results indicated that the two most common structures are a single tier structure (where all students from all grades ride together) and a two tier structure (where high school and middle school students ride together and elementary students ride separate. The table below summarizes the type of routing structure by region.

Table 7: Routing structure by region

Region	HS & MS ride together; ES separate	HS separate; MS & ES ride together	All grades ride separately	K-12 ride together
Upper Peninsula	3			5

Northern Lower Peninsula	2	1		16
Western	22	1	2	7
Thumb and surrounding area	7		1	8
South central	11			9
Southeast	5		21	4
Grand Total	**50**	**2**	**24**	**49**

In school districts where all students ride together, the maximum number of trips a bus can perform per day is, generally, two (one in the morning and one in the afternoon). In school districts where elementary, middle, and high schools ride separately, the maximum number of trips a bus can perform is six (three in the morning and three in the afternoon). While there are a number of variations on this theme, it is important to understand that this measure looks at the *total* runs a bus performs for home to school trips in a given day. Maximizing the use of the asset throughout the day is a key routing challenge and a significant indicator of overall efficiency.

A total of 124 respondents provided sufficient data to analyze the average number of trips per bus. The following tables summarize the average number of runs each bus is performing by fleet size and region.

Table 8: Average runs per bus by fleet size

Fleet Size	Average Runs Per Bus Per Day		
	2011	2009	2007
< = 25	2.2	2.1	2.1
26 to 50	2.7	2.4	2.3
51 to 75	3.0	3.4	3.2
76 to 100	2.3	4.4	3.7
>= 101	3.4		4.8
Survey Total	**2.5**	**2.6**	**2.5**

Table 9: Average runs per bus by region

Region	Average Runs Per Bus Per Day		
	2011	2009	2007
Upper Peninsula	2.1	1.6	2.4
Northern Lower Peninsula	1.5	1.4	2.0
Western	2.7	2.7	2.6
Thumb and surrounding area	1.9	2.4	2.2
South central	2.2	2.7	2.0
Southeast	2.6	3.1	4.0
Survey Total	**2.6**	**2.6**	**3.1**

The changes in runs per bus, coupled with the changes in simple capacity use, further support the idea that the relative efficiency of this survey group has declined over previous years. The specific reasons for these changes are not immediately apparent from the survey results. The volatility in the annual results is an indication that transportation managers should use this information cautiously. For any individual district, consistent measurement of their specific capacity use number will provide more nuanced insight into relative efficiency changes and the impact on operational cost and effectiveness.

Transportation Management Practices

The survey captures data on a select number of operational concerns in order to gain additional insight into the transportation landscape. For the 2011 survey, the design of transportation organizations and the use of transportation technology were points of emphasis. Organizational design is a topic that had not been addressed in any previous survey while the impact of routing software was first considered in the 2009 survey.

Transportation organizational structure

None of the previous surveys have attempted to identify how transportation operations across the state are organized or whether fiscal pressures have caused changes to management staffing practices. The 2011 survey focused on three primary positions: transportation manager, dispatcher, and router. The intention was to identify the prevalence of these positions within different types of operations and how, in the absence of these positions, organizations were providing these services.

Of the 142 respondents, 94 (66 percent) indicated that they had an individual dedicated to the management of transportation. It is primarily the smallest of operations (those less than 25 buses or transporting fewer than 1,000 riders) that do not have dedicated managers. In addition to whether there was a dedicated manager, the survey solicited information on years of experience in transportation. The table below summarizes the responses.

Table 10: Summary of years of experience

Years of experience in transportation	Count of respondents	Percent of responses
1 to 3	17	13%
4 to 6	10	8%
7 to 10	17	13%
11 to 15	20	16%
More than 15	65	50%
Survey Total	**129**	

It is clear from the response that there is a significant base of experience present in the state. However, with over 20 percent of all managers having 6 or fewer years experience, there is a clear need to ensure that professional development and networking opportunities remain available. Districts and professional organizations such as MSBO and MAPT will face the dual challenge of developing on-going learning systems and establishing succession plans for many of the managers with over 15 years experience.

The availability of technical staff such as dispatchers and routers was much more limited. Only 48 of the 142 (34 percent) respondents have designated routers in their organization. Districts with designated dispatcher positions ranged from among the smallest to the largest of survey respondents. Of the 94 operations that did not have designated dispatchers, 45 have routing software available. This would indicate that the remaining 49 respondents maintain manual

systems in order to perform dispatching functions. In instances where there is no designated router that function is generally performed by the transportation manager or a clerical staff within the department.

A total of 25 respondents had designated router positions. These operations had an average fleet size of 57 buses and transported 3,216 riders, which is substantially larger than the statewide average fleet and the average survey respondent. However, the range included fleets as small as 9 and as large as 134 buses. As with dispatching, the transportation supervisor and clerical staff are generally responsible for developing bus routes in the absence of a designated router position.

The use of transportation technology

The 2009 survey results indicated a positive relationship between cost and efficiency and the availability of routing software. Additionally, it indicated that larger operations (i.e., more buses and students) were more likely to have routing software available to them. The table below summarizes the average size and average cost of operations with routing software available from the 2011 survey.

Table 11: Routing software availability

Routing Software Available	Average Fleet Size	Average number of riders	Average cost per bus	Average cost per rider
No	22	1,248	$49,739	$860
Yes	42	2,470	$55,011	$927

While average costs are marginally higher for those operations using software, this is due predominantly to the near doubling of the size of the operations. These larger operations incur substantially higher benefit costs, on average, that impact the total costs. This data would again appear to indicate that the availability of routing software has a positive impact on cost.

In addition to routing software, the survey also identified, for the first time, the availability of cameras and automated vehicle locating (AVL; more commonly referred to as GPS) devices on school buses. A total of 124 respondents provided data on the availability of cameras and the results indicate

Table 12: Camera availability

Percent of camera availability within fleet	Count of respondents
None	32
1 to 10%	16
11 to 25%	8
26 to 50%	9
51 to 75%	10
76 to 100%	49

Of particular note in these results is that districts of all sizes and in all ranges have installed cameras. The impact of implementing cameras has not been assessed to date, but the broad base of availability offers the opportunity to begin evaluating the operational use of cameras.

Implementation of AVL is an evolving trend in school bus fleets. The use of location data to improve the efficiency and safety of operations are among the most commonly discussed benefits of this technology. The preponderance of survey respondents have not implemented this technology, but the 30 of the 125 respondents who did provide interesting insights. Table 13 summarizes the percent of each fleet that is equipped with AVL.

Table 13: Automated Vehicle Locating equipment availability

Percent of camera availability within fleet	Count of respondents
None	95
1 to 10%	4
11 to 25%	0
26 to 50%	2
51 to 75%	4
76 to 100%	20

For the 20 operations that reported 76 percent or more of the fleet was equipped with AVL, the average fleet size was 43 buses. This value is larger than both the overall average survey respondent and nearly twice the size of the average statewide fleet. However, within this group are 5 districts (20 percent) that have fewer than 20 buses. While the survey did not specifically target how operations were using AVL technology, it does appear that the range of products available can support fleets of all sizes. As with cameras, future surveys will focus on identifying how this technology is supporting the efficient and effective delivery of services.

Fleet Management Indicators

Providing a fleet of vehicles that is safe, reliable and economical to operate is a critical function of the fleet management component of a transportation department. Effective fleet management includes vehicle and equipment maintenance and repair; managing technician resources; managing parts inventory; and ensuring shop safety. The challenge is to perform these tasks with the minimum number of resources possible in order to ensure the cost-effective delivery of services. An organization cannot be a high quality and low cost provider of transportation services without having a cost effective and high quality maintenance operation.

Survey data was used to calculate two key measures that assist in the evaluation of the appropriateness of maintenance staffing. Buses per technician and vehicle equivalent units (VEU) per technician can be used to analyze where sufficient maintenance technicians are available to fully address the maintenance demand presented by the school bus fleet and the general district fleet of buses, vehicles, and equipment. Fleet age and mileage analyses were also conducted to understand fleet replacement practices.

Buses maintained per technician

The survey provided 102 usable responses to evaluate the number of buses maintained per technician. The results indicate that the average full time technician, that is a technician with no other duties besides maintaining vehicles and equipment, is responsible for 24 buses. This is an increase of 6 buses over 2009 and 8 buses over the 2007 survey. The following tables summarize the average number of buses maintained per technician by region and fleet size.

Table 14: Buses maintained per technician by region

Region	Average buses per technician		
	2011	2009	2007
Upper Peninsula	17	33	12
Northern Lower Peninsula	22	21	17
Western	27	20	18
Thumb and surrounding area	19	15	15
South central	30	17	17
Southeast	27	18	19
Grand Total	**25**	**19**	**17**

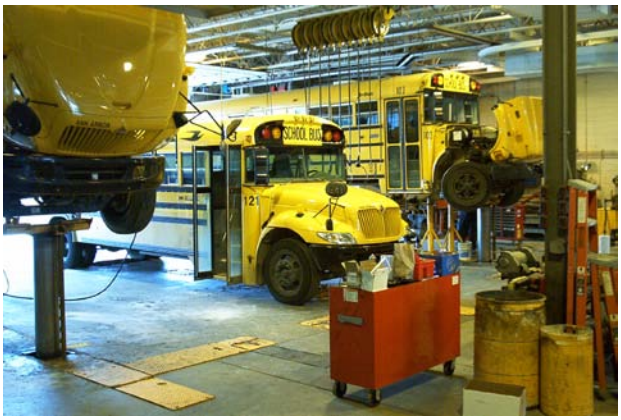
Table 15: Buses maintained per technician by fleet size

Bus Group	Average buses per technician		
	2011	2009	2007
< = 25	20	17	14
26 to 50	28	22	19
51 to 75	23	20	22
76 to 100	22	18	19
> =101	33		21
Grand Total	**25**	**19**	**17**

The surveys have indicated a clear direction toward increasing the number of buses assigned to each technician. The impact of this transition is difficult to assess until the longer term impact on preventive maintenance compliance and deferred maintenance can be measured.

Vehicle equivalent units maintained per technician

Fully analyzing the appropriateness of maintenance staffing requires a consideration of other vehicles and equipment that technicians must maintain. Typically, these include administrative sedans, pickup trucks used for buildings and grounds operations, grounds maintenance equipment, and large trucks. The most common method in the maintenance industry to evaluate the supply of mechanics necessary to maintain the demand presented by a fleet of vehicles and equipment is through the use of a concept known as vehicle equivalent units. This concept was originally developed by the United States Air Force and relates all vehicles to a standard, baseline unit. The baseline unit used is the average aged administrative sedan. The sedan is given a value of 1.0 vehicle equivalent unit (VEU) and all other vehicles and equipment are compared to this value. For purposes of the analysis of survey results, the following values were utilized:



- Auto – 1.0 VEU
- Pickup – 1.5 VEU
- Large Truck – 2.5 VEU
- Miscellaneous equipment - 0.75 VEU
- School Buses – 3.7 VEU

Industry data indicates that one full time equivalent technician should be able to maintain approximately 100 to 125 vehicle equivalent units. This is equal to one technician maintaining approximately 27 to 34 school buses, a value that is for the first time in the three surveys, consistent with the average buses per technician of 25 calculated in the Buses per Technician section. The following tables summarize the results of the survey by fleet size and region.

Table 16: Vehicle Equivalent Units per technician by fleet size

Bus Group	Average VEU per technician		
	2011	2009	2007
< = 25	87	78	58
26 to 50	112	94	80
51 to 75	85	81	91
76 to 100	97	78	90
>= 101	136		84
Grand Total	**102**	**83**	**77**

Table 17: Vehicle Equivalent Units maintained per technician by region

Region	Average buses per technician		
	2011	2009	2007
Upper Peninsula	79	95	56
Northern Lower Peninsula	87	91	74
Western	109	99	80
Thumb and surrounding area	76	72	60
South central	117	93	72
Southeast	112	87	79
Grand Total	**102**	**83**	**77**

Based on this sample group, fleets across the state are downsizing maintenance operations. Districts must balance cost reductions associated with increasing the number of buses per technician relative to deferred maintenance, increased parts costs, and associated maintenance effectiveness. While the available data does not allow for this type of analysis, transportation and business managers should be able to conduct these analyses using expenditure data, technician productivity (districts should expect 1,400 to 1,500 billable hours per technician per year) and maintenance history. As has been mentioned in previous surveys, evaluating the appropriateness of the VEU per technician ratio should consider a number of factors including:

- Preventive maintenance schedules;
- In-house versus outsourced repairs;
- Available facility space and tooling;
- Fleet age and condition; and
- Technician training and skills.

Of particular concern to districts that have downsized is the procedural changes that may be required to manage technician productivity and efficiency. Improved scheduling of services and monitoring of maintenance activities will be required to assess the financial and operational impact of leaner maintenance organizations.

Fleet age and use

It is generally understood that older, higher mileage vehicles will have a greater maintenance demand and higher costs. Fleet age and mileage will also impact the design and scope of maintenance programs and the number of technicians required. The survey process did not include the collection of individual asset data that would allow for a unit based calculation of bus age or mileage. As an alternative, respondents were asked to identify the number of buses within given age and mileage parameters. Figures 10 and 11 show the age and mileage of the fleets responding to the survey.

Figure 10: Fleet age of all respondents

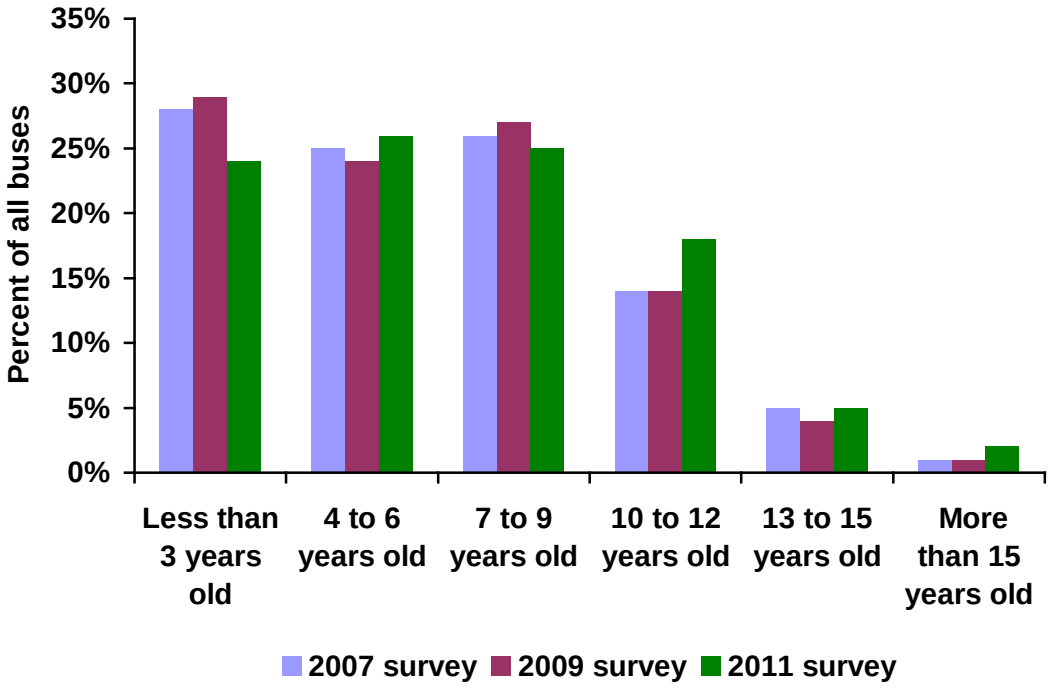
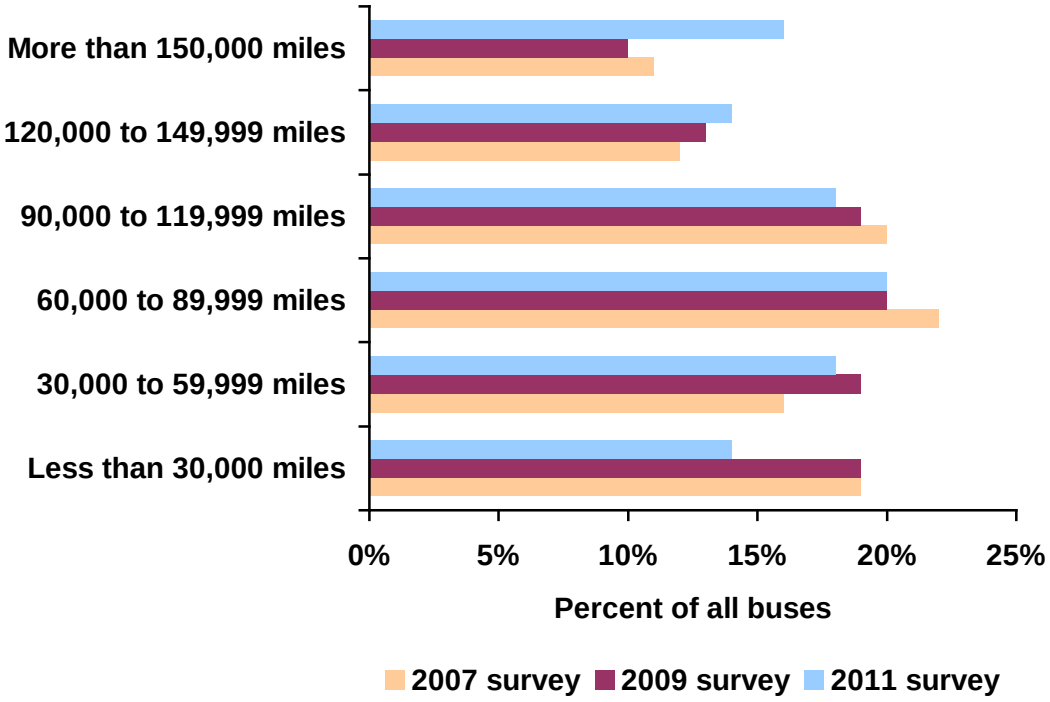


Figure 11: Distribution of fleet mileage by respondents



Given the financial constraints in recent years it is not surprising that these figures demonstrate that buses are being kept for longer periods of time and being run to higher mileages. The significant increase in the number of older and high mileage buses coupled with the reduction in newer and low mileage buses is a clear indication of the deferred replacement strategy that districts have used to control costs.

Changes in the technician ratios detailed earlier coupled with the aging of the fleet are a cause for concern for transportation and business managers. Deferring bus replacement can be a reasonable short term approach to addressing budget shortfalls, but when this strategy is used over a longer period it can have significant consequences for operations. Deferred replacement will increase maintenance and operations costs as older vehicles consume greater volumes of repair parts, technician time and fuel. Additionally, these older assets are likely to be more unreliable which will result in operational disruptions. Evaluating the impact of extending vehicle replacement cycles and alternative financing mechanisms should be an immediate consideration to minimize the service interruptions likely with older fleets.

Appendix 1 – Regional Groupings of Intermediate School Districts

Region 1 - Upper Peninsula
COPPER COUNTRY ISD
EASTERN UPPER PENINSULA ISD
DELTA SCHOOLCRAFT ISD
DICKINSON-IRON ISD
GOGEBIC ONTONAGON ISD
MARQUETTE ALGER ISD
MENOMINEE ISD

Region 2 - Northern Lower Peninsula
ALPENA-MONTMORENCY-ALCONA ESD
CHARLEVOIX EMMET ISD
CLARE GLADWIN ISD
COOR ISD
COP ISD
IOSCO RESA
MANISTEE ISD
MASON LAKE ISD
MECOSTA OSCEOLA ISD
NEWAYGO COUNTY ISD
OCEANA ISD
TRAVERSE BAY ISD
WEXFORD MISSAUKEE ISD

Region 3 - Western
ALLEGAN COUNTY ISD
BARRY ISD
BERRIEN ISD
IONIA COUNTY ISD
KALAMAZOO RESA
KENT ISD
LEWIS CASS ISD
MONTCALM AREA ISD
MUSKEGON ISD
OTTAWA AREA ISD
ST. JOSEPH ISD
VAN BUREN ISD

Region 4 - Thumb and surrounding areas
BAY ARENAC ISD
GENESEE ISD
GRATIOT-ISABELLA ISD
HURON ISD
LAPEER ISD
MIDLAND ISD
SAGINAW ISD
SANILAC ISD
SHIAWASSEE RESD
ST. CLAIR ISD
TUSCOLA ISD

Region 5 - South Central
BRANCH ISD
CALHOUN ISD
CLINTON ISD
EATON ISD
HILLSDALE ISD
INGHAM ISD
JACKSON ISD
LENAWEE ISD
LIVINGSTON ESA
MONROE ISD

Region 6 - Southeast
MACOMB ISD
OAKLAND ISD
WASHTENAW ISD
WAYNE RESA

Appendix 2 – 2011 MSBO Student Transportation Benchmarking Survey Questions

MSBO 2011 Student Transportation Benchmarking Survey

1. Background Information

The survey is designed to minimize the amount of redundant effort required to compile and submit transportation information. Much of the information being requested is currently included in the SE-4094 and SE-4107 forms now being submitted to the State, and should require less than one hour to complete. Questions or concerns regarding the survey can be directed to Tim Ammon of MPS at 888-518-3377 extension 702 or to tammon@mpsconsultant.com.

We are collecting information on both ISD and school district operations, so the first question you will be asked will direct you to the appropriate survey.

Please note that all questions marked with an asterisk require answers for you to be able to continue on with the survey.

1. What type of entity do you represent?

- ◯ Local Education Agency / K-12 School district
- ◯ ISD, ESA, etc

MSBO 2011 Student Transportation Benchmarking Survey

2. School District Operations

Please provide us with some basic information on your school district. Note that this information will be used only to contact you in the event that there is a question about your information. Survey results will in no way identify any individual district.

***1. Please enter the name of your district.**

***2. What is your district number?**

***3. Please tell us about yourself. We will only use this information to validate the responses to the survey and address any questions.**

What is your name?	
What is your email address?	
What is your phone number?	

MSBO 2011 Student Transportation Benchmarking Survey

3. Transportation Policies

Please tell us about the policies you must operate within.

1. Please indicate which of the following policies and procedures have been formally documented and adopted by your school district. Check all that apply

- [ ] Eligibility for transportation services
- [ ] Walk to bus stop distances
- [ ] Maximum student ride times
- [ ] Accident and/or incident management
- [ ] Inclement weather management
- [ ] Student discipline
- [ ] Bus idling
- [ ] Bus stop location
- [ ] Alternative address transportation allowances (e.g., from daycare centers, joint custody)
- [ ] Use of cell phones and/or electronic devices
- [ ] Courtesy transportation

2. What are your planning guidelines for seating students on buses?

- ◯ Three students per seat regardless of grade
- ◯ Two students per seat regardless of grade
- ◯ Three elementary or middle school students per seat; two high school students per seat
- ◯ Three elementary students per seat; two high school or middle school students per seat

Other (please specify)

3. What kind of bus routing structure do you have?

- ◯ Kindergarten through high school students can ride together
- ◯ High school and middle school ride together; elementary school rides by themselves
- ◯ High school rides by themselves; middle school and elementary school ride together
- ◯ High school, middle school, and elementary school all ride by themselves

Other (please describe your routing structure)

4. The following question is based on established guidelines or policies within your district. If you do not have an established guideline please leave the box empty.

Please indicate the maximum amount of time students can ride the bus by grade or student type as established in existing guidelines or policies. Please enter the value in minutes.

Elementary school students	
Middle School students	
High school students	
Out of district students	
Special needs students	

MSBO 2011 Student Transportation Benchmarking Survey

4. Transportation Organizational Structure

This section is designed to collect information on how you provide transportation services.

***1. Does your district have an individual EXCLUSIVELY dedicated to manage transportation? Please answer yes if this person is responsible for functions such as developing bus routes, managing bus drivers, and establishing transportation budgets.**

- ◯ Yes
- ◯ No

MSBO 2011 Student Transportation Benchmarking Survey

5. Other Departments

1. What other departments or functions does the individual responsible for transportation oversee?

MSBO 2011 Student Transportation Benchmarking Survey

6.

1. How many years of experience does the individual managing transportation operations have in transportation?

	1 to 3	4 to 6	7 to 10	10 to 15	More than 15
Years of experience	◯	◯	◯	◯	◯

2. Do you have a designated dispatcher position? Answer yes only if there is a person in your organization whose primary function is related to dispatch. If the answer is no, please describe who performs dispatch functions in the box below.

◯ Yes

◯ No

If there is no designated dispatcher, who provides the dispatch function?

3. Do you have a designated router position? Answer yes only if there is a person in your organization whose primary function is to develop bus routes. If the answer is no, please describe who performs the routing function in the box below.

◯ Yes

◯ No

If there is no designated router, who develops the bus routes?

MSBO 2011 Student Transportation Benchmarking Survey

7. Transportation System Design

The following questions will gather information about how your transportation operation is designed.

*1. How do you provide transportation services?

Check all that apply.

- [ ] Using district owned buses
- [ ] Using contracted buses
- [ ] Using a mix of district owned and contracted buses

MSBO 2011 Student Transportation Benchmarking Survey

8. Contracting question

Please tell us about your outsourced program.

***1. In what year did you begin using a contractor to provide services? Please enter the value as a four digit year.**

***2. What percentage of your transportation operation is outsourced?**

- ◯ Less than 10%
- ◯ 10 to 25%
- ◯ 25 to 50%
- ◯ 50 to 75%
- ◯ 75 to 99%
- ◯ 100%

3. How has the proportion of your operation that is contracted changed since July 2009?

- ◯ The contracted proportion of the operation has INCREASED since July 2009
- ◯ The contracted proportion of the operation has DECREASED since July 2009
- ◯ The contracted proportion of the operation has REMAINED THE SAME since July 2009

MSBO 2011 Student Transportation Benchmarking Survey

9. Regular Education Transportation Operations

***1. How many REGULAR EDUCATION students do you transport using the following service providers:**

District resources	
Contractor	
ISD	
Other	

***2. How many schools of each type do you transport to?**

Include all in district and out of district schools for both regular students.

High schools	
Middle/Junior High Schools	
Elementary schools	
Other schools (i.e., charter, non-public)	

***3. Do you use bus routing software to design your bus runs?**

- ◯ Yes
- ◯ No

***4. How many bus runs do you have for all regular education, special needs, and out of district programs?**

This information must be calculated by the district. The total runs should include all runs throughout the day including morning, noon, and afternoon. However, this should not include any athletic runs or extracurricular runs. A bus run is considered an individual bus trip where students are picked up from one location and dropped off at one location. In the case of combination runs where students are picked up and delivered to one or more nearby schools, this should be counted as one (1) run.

Example 1: When a bus leaves the garage in the morning, picks up a load of high school students, and drops them off at their school that would equal one (1) run. When it departs the high school and picks up a load of middle school students and drops them off at school that would equal one (1) run. When it departs the middle school and picks up a load of elementary school students and drops them off at school that would also equal one (1) run. Therefore, this bus would have three (3) runs that are counted.

Example 2: A bus leaves the garage in the morning and picks up a load of high school students and a load of middle school students. It then drops the high school students off on one campus and the middle school students on another campus. This combination of schools would equal one (1) run.

5. Do you use any of the following techniques to design your bus runs and routes? Check all that apply:

- [ ] Route pairing - Assigning bus runs together sequentially to a bus or bus route. Also called “tiering”.
- [ ] Combination runs - A single bus run used to transport students from different schools to multiple school destinations.
- [ ] Shuttle runs - A bus run that loads students arriving from other buses at a common collection point or hub (usually a school), and takes them directly from that point to their destination school or schools.

MSBO 2011 Student Transportation Benchmarking Survey

10. Special Education Transportation

Please provide the following information on how you provide transportation for special needs students.

1. How many SPECIAL EDUCATION students do you transport using the following service providers:

District resources	
Contractor	
ISD	
Parent	
Other	

2. What routing techniques are used to increase the efficiency of special needs services?

	Yes	No
Special needs students ride on regular education buses	◯	◯
Regular education students ride on designated special needs buses	◯	◯
Special needs students ride on buses with students from other school districts	◯	◯

*3. Does the transportation department have a formal role in evaluating transportation options or costs for special needs students?

◯ Yes

◯ No

If yes, please briefly describe the role of transportation.

11. Fleet Information

Please tell us about your school bus fleet and other district vehicles your staff maintains.

***1. Please provide the number of buses (a combined total of district owned and contractor owned buses, if appropriate) in each of the following age groups. Information only on buses that are active route buses should be included. Spare buses are not to be included.**

In calculating the age of the vehicle subtract the current year from the year of purchase value (YOP) that is reported on the SE-4107 report for vehicle inventory. For this survey please use 2010 as the base year, therefore the formula would be:

2010 – Year of Purchase = Age group vehicle would be included in.

Less than 3 years old	
4 to 6 years old	
7 to 9 years old	
10 to 12 years old	
13 to 15 years old	
More than 15 years old	

***2. Please provide the number of buses you have in each of the following mileage groups. This should be a combined total of district owned and contractor owned if some or all of your operations are contracted.**

Please provide information only on buses that are active route buses. Spare buses are not to be included. For purposes of reporting mileage, please utilize a meter reading taken between November 1, 2010 and today's date.

Less than 30,000 miles	
30,000 to 59,999 miles	
60,000 to 89,999 miles	
90,000 to 119,999 miles	
120,000 to 149,999 miles	
More than 150,000 miles	

***3. What is the rated capacity of your school bus fleet?**

This information should include data on active route buses only from form SE-4107. The value included in the cell should equal the sum total of rated passenger capacity for each category of transportation.

For example: If a district has a total of 10 buses that are rated at 72 passengers each, the value entered in the cell would be 720.

4. What percentage of your school district's buses are equipped with on-board cameras? Please count only buses where cameras are actually installed. Buses with dummy boxes but without permanent installations should not be included in your count.

	None	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 100%
Percent of fleet with cameras	◯	◯	◯	◯	◯	◯

5. What percentage of your school district's buses are equipped with GPS or AVL technology?

	None	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 100%
Percent of fleet with GPS or AVL	◯	◯	◯	◯	◯	◯

12. Transportation Department Staffing

1. Please indicate the number of full time equivalent positions you have for each of the following groups.

The data requested in this section is intended to address frequent questions regarding the appropriate size of maintenance staffing plans. Therefore, it is requested that each district review its fleet maintenance operation and provide information on the number of full time equivalent positions (defined as at least six (6) hours per day) in each of the following categories:

Technicians - For the purpose of this analysis, technicians are considered to be any staff member whose primary responsibility is the repair and maintenance of school buses and support equipment. Examples of FTE counts include technicians and lead technicians who actually perform maintenance services; and mechanics helpers who may provide oil change services.

Parts staff – For the purpose of this analysis, parts staff are considered to be individuals whose primary responsibility is the procurement and management of vehicle maintenance inventory items. This may include fractional full-time equivalent positions for technicians who order their own parts, fractional portions of warehouse staff who manage central stores items, or individuals who have full time vehicle maintenance inventory management responsibilities.

Other maintenance staff – For the purpose of this analysis, other maintenance staff are considered to be individuals with responsibilities related to vehicle maintenance and management. This category would include individuals whose primary responsibility is to fuel vehicles and mechanics helpers who do not actually perform maintenance services.

Technicians	
Parts staff	
Other maintenance staff	

2. The data requested in this section is intended to identify additional maintenance services that are provided by school district fleet/equipment maintenance staff. Please tell us how many of the following vehicle types you maintain.

Automobiles	
Pickups	
Vans	
Large trucks	
Miscellaneous equipment	

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13. ISD/ESA Operations

Please provide us with some basic information on your ISD/ESA. Note that this information will be used only to contact you in the event that there is a question about your information. Survey results will in no way identify any individual district.

***1. Please enter the name of your ISD/ESA.**

***2. What is your ISD/ESA number?**

***3. Please tell us about yourself. We will only use this information to validate the responses to the survey and address any questions.**

What is your name?

What is your email address?

What is your phone number?

***4. What types of services related to transportation does the ISD/ESA provide? Check all that apply.**

- [ ] Transporting special needs students
- [ ] Transporting Head Start or Early Intervention students
- [ ] Facilitating joint contracting for transportation services, but not actually providing the service
- [ ] Facilitating other joint purchasing efforts such as fuel, repair parts, technology, drivers, etc

Other (please describe any other transportation-related services you provide)

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14. ISD/ESA transportation operations

***1. How many individuals work directly in the provision of transportation services at the ISD/ESA? Please round to the nearest 0.5 FTE**

***2. Does your district have an individual EXCLUSIVELY dedicated to manage transportation? Please answer yes if this person is responsible for functions such as developing bus routes, managing bus drivers, and establishing transportation budgets.**

- ◯ Yes
- ◯ No

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15. Other Departments

1. What other departments or functions does the individual responsible for transportation oversee?

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16. Experience and Positions

1. How many years of experience does the individual managing transportation operations have in transportation?

	1 to 3	4 to 6	7 to 10	10 to 15	More than 15
Years of experience	◯	◯	◯	◯	◯

2. Do you have a designated dispatcher position? Answer yes only if there is a person in your organization whose primary function is related to dispatch. If the answer is no, please describe who performs dispatch functions in the box below.

◯ Yes

◯ No

If there is no designated dispatcher, who provides the dispatch function?

3. Do you have a designated router position? Answer yes only if there is a person in your organization whose primary function is to develop bus routes. If the answer is no, please describe who performs the routing function in the box below.

◯ Yes

◯ No

If there is no designated router, who develops the bus routes?

***4. How do you provide services?**

◯ The ISD/ESA owns the assets

◯ The ISD/ESA has contracted for the assets

◯ There is a mix of ISD/ESA assets and contracted assets

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17. ISD Contracting

1. What percentage of your transportation operation is outsourced?

- ◯ Less than 10%
- ◯ 10 to 25%
- ◯ 26 to 50%
- ◯ 51 to 75%
- ◯ 76 to 99%
- ◯ 100%

18. ISD/ESA Fleet Information

Please tell us about your school bus fleet.

***1. Please provide the number of buses (a combined total for ISD/ESA-owned and contractor owned) in each of the following age groupings. Information only on buses that are active route buses should be included. Spare buses are not to be included.**

In calculating the age of the vehicle subtract the current year from the year of purchase value (YOP) that is reported on the SE-4107 report for vehicle inventory. For this survey please use 2010 as the base year, therefore the formula would be:

2010 – Year of Purchase = Age group vehicle would be included in.

Less than 3 years old	
4 to 6 years old	
7 to 9 years old	
10 to 12 years old	
13 to 15 years old	
More than 15 years old	

***2. Please provide the number of buses you have in each of the following mileage groups. This should be a combined total of district owned and contractor owned if some or all of your operations are contracted.**

Please provide information only on buses that are active route buses. Spare buses are not to be included. For purposes of reporting mileage, please utilize a meter reading taken between November 1, 2010 and today's date.

Less than 30,000 miles	
30,000 to 59,999 miles	
60,000 to 89,999 miles	
90,000 to 119,999 miles	
120,000 to 149,999 miles	
More than 150,000 miles	

***3. What is the rated capacity of your school bus fleet?**

This information should include data on active route buses only from form SE-4107. The value provided should equal the sum total of rated passenger capacity for each vehicle used for transportation. Do not include spots available for wheelchair positions. The only value that should be included relates to the number of seating positions.

For example: If a district has a total of 10 buses that are rated at 72 passengers each, the value entered in the cell would be 720.

19. ISD Use of Technology

1. Do you use routing software to manage the bus routes?

- [ ] Yes
- [ ] No

2. What percentage of your school district's buses are equipped with on-board cameras? Please count only buses where cameras are actually installed. Buses with dummy boxes but without permanent installations should not be included in your count.

	None	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 100%
Percent of fleet with cameras	◯	◯	◯	◯	◯	◯

3. What percentage of your school district's buses are equipped with GPS or AVL technology?

	None	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 100%
Percent of fleet with GPS or AVL	◯	◯	◯	◯	◯	◯

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20. Thank you

Thank you for participating in the 2011 MSBO Transportation Survey. If you have questions about the survey please feel free to contact Scott Little at MSBO (slittle@msbo.org) or Tim Ammon from MPS (tammon@mpsconsultant.com).