

Feasibility of Multi-School District Bus Sharing: Significant Potential Benefits for Ohio

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Acknowledgements: This research was supported in part by Ohio's Local Government Innovation Fund through Local Government Innovation Program grant number 20152974 and an Ohio Department of Education Straight A Fund grant. Partners include the Ohio Valley Educational Service Center, the Industrial and Systems Engineering Department of Ohio University, and Scott Scriven LLP.

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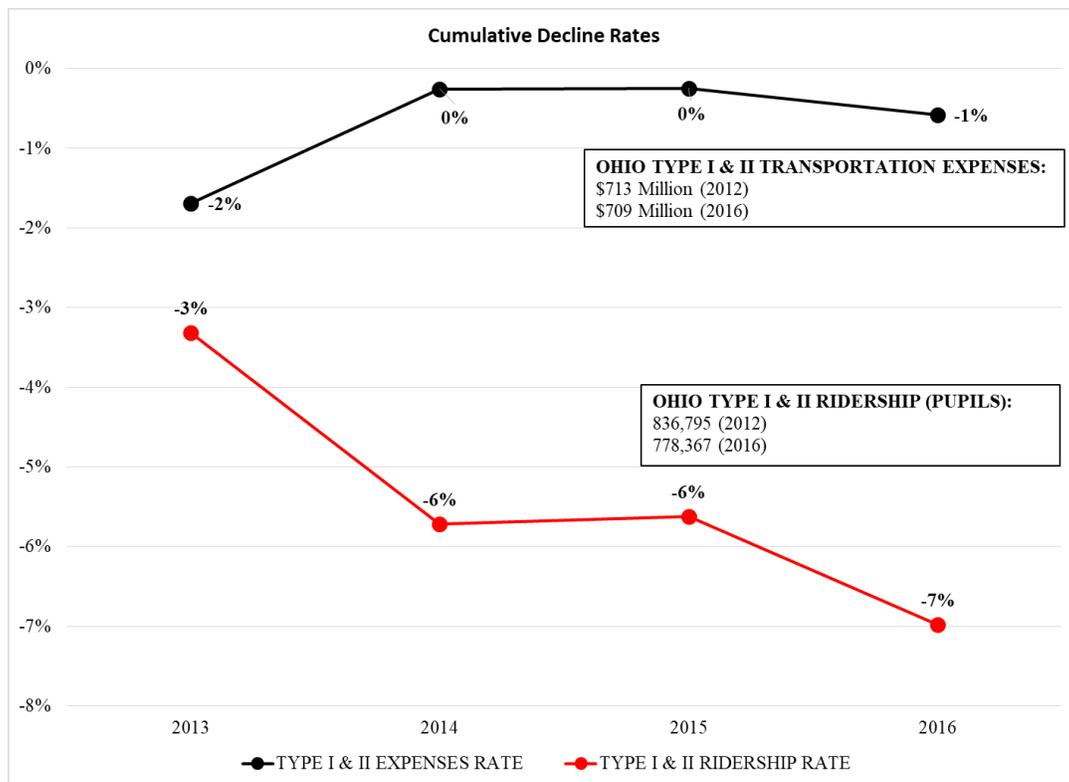
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Executive Summary

Student ridership on Ohio school buses has decreased by 7% over the past five years, however pupil transportation expenses remain largely the same (Figure 1). Ohio school districts spend over \$40 million annually on spare buses, money that could otherwise be directed into instructional support. The costs to maintain and insure spare buses contribute to these expenses. More than 50% of these expenses can be saved through a reduction of excess spare buses and shared services agreements.

Figure 1



The Ohio Shared Services Collaborative (OSSC) discovered 29% of its bus fleet recorded zero miles on any given school day. More than 122 buses in our consortium of 20 districts sit unused, yet districts are spending transportation dollars to maintain and insure them.

Performance metrics from the Council of the Great City Schools demonstrate average spare bus ratios of 15% or less in school districts nationwide. OSSC's spare bus ratio is 32% while the state of Ohio's overall ratio is 25%. Our spare bus inventory appears higher than Ohio as a whole and nationwide, suggesting opportunities to reduce the number of buses in the consortium fleet.

Muskingum Valley Educational Service Center and the Ohio Valley Educational Service Center were awarded a Local Government Innovation Program grant to determine the feasibility of school districts sharing excess bus inventory to reduce operating costs.

The analysis revealed opportunities to reduce operating costs associated with excess spare bus inventory. No adverse impacts on bus availability due to maintenance were found. Actual daily utilization was confirmed as a reliable metric for fleet size needs. Legal review confirmed school districts can share buses.

It is feasible for OSSC to eliminate 85 excess buses and achieve a national average (15%) spare bus ratio. This generates potential consortium wide annual savings of \$978,108 that can be increased to \$1,150,714 by improving the ratio to 10%. Bus sharing partnerships are a tool for districts to accomplish this while minimizing risk.

The findings are relevant for many Ohio school districts. Improving the spare bus ratio statewide to a national average creates annual cost savings over \$18 million with potential to increase to \$28 million by reaching the industry standard. These savings become funds that can be redirected to instructional support.

Highlighted Recommendations

The following recommendations highlight results of the study and clear opportunities for Ohio school districts to better serve students. These four recommendations are centered on improving the performance of pupil transportation, thereby increasing more financial resources for instructional support.

Reduce Excess Inventory. Ohio school districts should evaluate their spare bus utilization and reduce excess inventory to 10% to 15% of the total fleet.

Share Spare Buses. Ohio school districts should enter into shared service agreements (Appendix B) with other school districts to share spare buses. This reduces their risk of lacking capacity due to less spare buses, within districts, during rare occasions with extremely high number of non-routine trips or atypical maintenance situations.

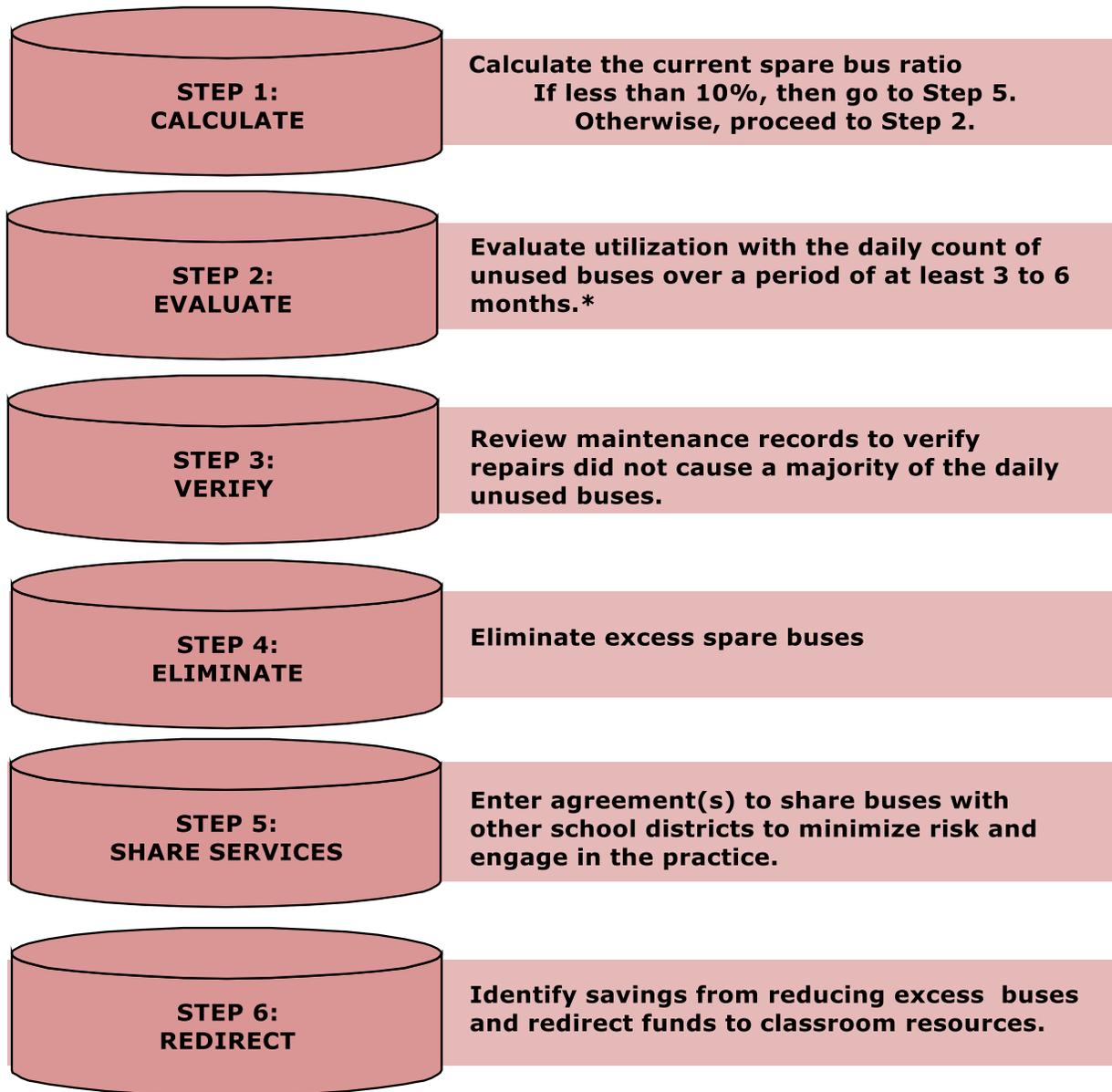
Incentivize Performance. The Ohio Legislature and the Ohio Department of Education should incentivize school districts to meet national and industry standards for the spare bus ratio. Examples include financial and technical support to assist districts with analyzing routes, determining fleet reliability, analyzing actual bus utilization, and establishing fleet sizes.

Incentivize Shared Service Agreements. The Ohio Legislature and the Ohio Department of Education should further incentivize school districts to enter into shared bus agreements. This develops collaborative networks that can grow shared services to other operations where additional improvements can be made.

Implementation

It is feasible for Ohio school districts to begin the first two recommendations with their own resources and the template agreement developed through this study. The steps for school districts to reduce excess inventory and share spare buses are shown in Figure 2.

Figure 2



* GPS tracking and daily log sheets are both effective forms of data collection.

Conclusion Summary

The study demonstrated it is both practical and legal for school districts to share buses. Ohio school districts should reduce excess bus inventory and develop bus sharing partnerships to save millions of dollars annually. These savings can become funds available for school districts to redirect toward educational and classroom resources.

This feasibility study is a first of its kind that shows how technology, data analytics, research and cooperative planning can be used to help school districts reduce their cost of student transportation. This study provides a reliable and valid methodology. Ohio only needs to implement the model on a broader basis to fully realize the financial merits of this approach.

Introduction

School districts throughout Ohio and the United States recognize that pupil transportation is essential for students. This service provides access to classroom resources necessary for learning and achievement. The operating costs for routine pupil transportation in Ohio exceed \$731 million annually (Ohio Department of Education, 2017a). Government spending in recent history exceeds the growth in revenues as well as population (Keen & Ross, 2012). These operational expenses limit the funds available to school districts for classroom and learning resources.

Beyond Boundaries: A Shared Services Action Plan for Ohio Schools and Government noted the rising costs for public schools and services are unsustainable (Keen & Ross, 2012). The report stated that school and government agencies must reduce costs and improve efficiency through methods such as partnerships, collaboration, and shared services. The Ohio Shared Services Collaborative (OSSC) is a consortium of 20 school districts and other education providers that voluntarily agreed to pool time, talent, and resources toward quality services at the lowest cost. The OSSC was awarded an Ohio Department of Education (ODE) Straight A Fund grant in 2014 to reduce pupil transportation expenses and redirect the savings to classroom resources (Ohio Department of Education, 2017d).

The OSSC determined technology was necessary to gain insight on existing bus routes and operational practices. OSSC completed installation of Global Positioning System (GPS) hardware on over 441 school buses in January 2015. During verification and validation of the GPS tracking, the OSSC discovered more than 25% of the buses traveled zero miles every school day.

This discovery of such a significant number of unused buses is a prime example of the unsustainable costs identified in the Beyond Boundaries report (Keen & Ross, 2012). The OSSC utilized a proven process improvement methodology, Lean Six Sigma, to address the excess capacity issue. Unused buses are potentially a type of waste defined as inventory in lean manufacturing according to the American Society for Quality (2017). The OSSC was awarded a Local Government Innovation Program grant by the Ohio Development Services Agency to further study the problem including the feasibility of practices such as fleet size reductions and shared services.

Problem Statement

Student ridership on Ohio school buses has decreased by 7% over the past five years, however pupil transportation expenses remain the same (Figure 1). Ohio school districts spend over \$40 million annually on spare buses, money that could otherwise be directed into instructional support. The costs to maintain and insure spare buses contribute to these expenses. School districts can proactively improve performance in pupil transportation operations to redirect funds back to the classroom.

Methodology

There are several variables associated with the minimum school buses a district needs in order to provide safe, secure, and reliable pupil transportation. These include the age of buses, the reliability of buses, the number of assigned buses, and the frequency of non-routine trips such as athletics and field trips.

Both qualitative and quantitative methods were used to analyze actual current practices related to these variables. Resources for these methods included a review of current practices,

online survey, GPS tracking, bus maintenance records, industry benchmarks, and the Ohio Revised Code. Together these resources address the number of school buses a district needs within its fleet as well as potential solutions to reduce waste.

Existing Methods

OSSC searched for current operational practices that address unused buses. A literature review was completed by Gursel Suer, Ph.D., and Dusan Sormaz, Ph.D., professors at Ohio University in the Industrial and Systems Engineering Department. Both equipment replacement optimization (ERO) and fleet size were explored. Existing research appears to be limited to the replacement of transit buses but not the utilization of them (Suer & Sormaz, May 29, 2017). There were no works found related to school bus fleet size or sharing buses across school districts and separate entities (Suer & Sormaz, May 29, 2017). The literature review indicated there is no existing model to replicate nor is there a single, simple metric to quantify all of the variables.

District Survey

The OSSC developed an 11-question survey (Appendix C) and administered it to consortium districts via email. Questions included factors related to purchasing school buses, fleet size review, and maintenance record keeping. Thirteen school districts completed the survey with 67 percent of responses from transportation supervisors and the remaining from district superintendents.

The survey results provided a perspective from OSSC school districts. These districts represent the same geographic and demographics characteristics as 78% of Ohio school districts shown in Appendix A. The survey revealed: 20% purchase buses on a regular replacement cycle;

80% do not use references or outside resources to make bus purchase or removal decisions; and the primary measure for effectiveness of a spare bus is total miles driven during a time period.

Utilization Analysis

School districts reported total mileage of a spare bus as the primary metric for determining effectiveness and need. There are several variables this metric does not include such as the frequency of use, availability of other buses, and the carrying costs for the asset. The GPS tracking hardware on OSSC buses recorded measurements including distance traveled, date, time, latitude, longitude, and fuel consumption. These data were then analyzed regarding the frequency of use and bus availability.

Actual utilization of school buses during fiscal year 2016 were analyzed through a partnership with the Industrial and Systems Engineering Department at Ohio University from March 2016 through June 2017. The number of buses driven were counted each school day using historical GPS data. Counts were completed for five increments of driving distances to exclude buses driven fewer miles than a practical use (such as less than five miles).

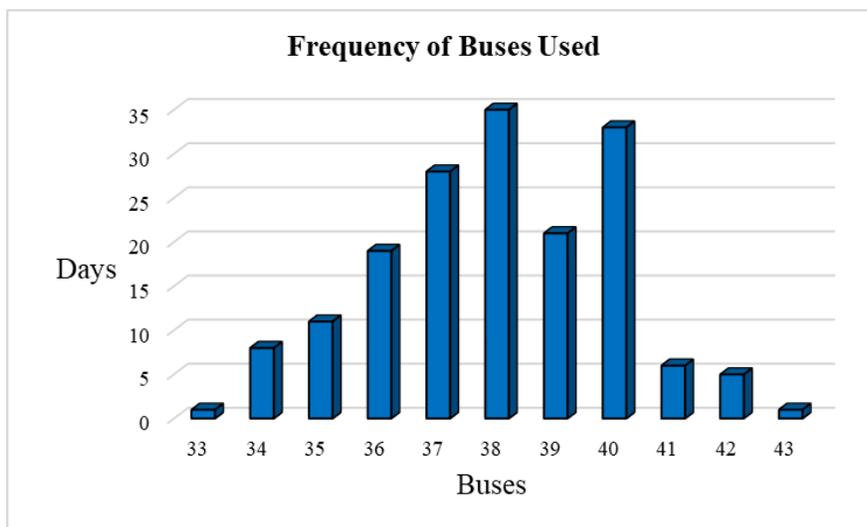
Utilization counts were summarized for each school district and compared to the most current bus inventory. Districts were provided a summary of the number of buses used and the number of days they used each count. The summary provided a decision-making tool for districts to review actual bus utilization as shown in Table 1. The summary shows when buses were used as well as when buses recorded zero miles and were not used. For example, there was one school day when 43 buses traveled 15 miles or more. There were four school days when 43 buses traveled some distance and some of those traveled less than 1 mile.

Table 1: Example OSSC District Actual Bus Usage Summary

Number of buses used	Number of buses traveling zero miles	Levels				
		Number of Days Traveling a Distance				
		Greater than 0 miles	Greater than 1 mile	Greater than 5 miles	Greater than 10 miles	Greater than 15 miles
33	25	1	1	2	1	1
34	24	5	9	8	8	10
35	23	8	11	11	11	12
36	22	14	12	17	19	22
37	21	20	29	26	28	26
38	20	37	36	35	35	33
39	19	24	22	22	21	24
40	18	30	31	31	33	29
41	17	13	9	8	6	7
42	16	12	7	7	5	3
43	15	4	1	1	1	1
Total Days		168	168	168	168	168

The example district’s fleet size was 58 at the time utilization data was collected. Data in Table 1 along with the graph in Figure 3 served as a guide to districts to evaluate the size of their fleet and investigate opportunities to reduce waste.

Figure 3



Bus usage provided individual school districts valuable information to analyze their fleet size and needs. However, this analysis does not reflect the total number of unused OSSC buses. A similar analysis of unused buses was completed with the entire consortium for fiscal year 2017. The number of unused buses were identified for more than 150 typical school days. On average, 142 buses were unused or traveling less than 10 miles, shown in the run chart of Appendix A Figure A1.

While the GPS data provides a clear picture of actual daily utilization, it does not indicate availability of unused buses. Other factors such as maintenance operations needed consideration.

Availability Analysis

It is common in pupil transportation to have spare buses in the fleet to provide additional capacity for buses out of service due to maintenance. A study on bus availability was completed through a partnership with the Department of Industrial and Systems Engineering at Ohio University. This included two approaches: a review of maintenance records and analysis of availability based on actual utilization.

Annual maintenance records were compared with GPS data for a combined sample of 29 buses from two districts. Dates when these buses were not used were identified and matched with the actual maintenance record. Time to complete any maintenance activities was also considered to determine impact to availability.

There were very few instances when a bus was not utilized and maintenance was performed on the same day. Many of the maintenance activities performed on these occasions required two hours or less, which are commonly performed between morning and afternoon

routes. The sample showed no significant correlation between unused buses and maintenance records. Maintenance and repairs did not adversely affect the availability of school buses.

Both an availability ratio calculation and Monte Carlo simulation (See Dizikes, 2010 for an explanation of Monte Carlo simulation) were used to determine the reliability of actual utilization as a measurement for bus availability. These methods were used to predict the likelihood a school district had enough buses available to operate the regular routes on any given day. The first step in the calculation was creating an availability ratio for each bus by dividing actual days used by the total number of school days during a nine-month period. The next step was multiplying the availability ratio of all buses. The product was summed across all possible fleet size scenarios for the number of buses available greater than or equal to the number of regular routes. The Monte Carlo simulation included this scenario for 1,000 days and 100 replications to evaluate the accuracy the availability ratio performs over an extended period of time.

Industry Standards and Benchmarks

Several state and national organizations use metrics to measure and analyze the performance of school districts related to the size of their school bus fleet. The Council of the Great City Schools gathers data from over 35 members including the daily buses as a percent of total buses. Daily buses are equivalent to assigned buses in Ohio (Ohio Department of Education, 2017b). The purpose of the metric is to measure the spare bus ratio, which is calculated by subtracting the daily buses as a percent of total buses from 100 percent (Council of the Great City Schools, 2016).

The ODE Pupil Transportation Office provides guidance to school districts on the spare bus ratio. The industry standard spare bus ratio is 10% according to this office (R. Harmon,

personal communication, June 1, 2017). Simply multiply the number of assigned buses by 10% to calculate the number of spare buses. The same office also provides school districts a formula for the annual expenses of a spare bus, which is 20% of the cost per assigned bus (R. Harmon, personal communication, June 1, 2017).

Legal Review

Legal opinion was sought from Scott Scriven LLP, 250 East Broad Street, Suite 900, Columbus, Ohio 43215 to address the legality and practical concerns associated with implementing shared busing services between school districts. Scott Scriven LLP concluded the Ohio Revised Code authorizes one school district to transport pupils enrolled in another district if a written agreement exists between the two boards of education (Towster, 2017). This authority also extends to non-routine transportation as long as it does not interfere with regularly scheduled routes to and from school. Scott Scriven LLP concluded Ohio law generally permits school districts to contract with other entities and has authority to lease personal property (e.g., school buses) via written contract. Practical concerns of shared busing such as liability, proper identification of buses, insurance, labor agreements, and supervision of employees and students were also considered.

Results

The industry standard spare bus ratio of 10% is reasonable and achievable for public school districts, regardless of geography or student enrollment. Members of the Council for the Great City Schools demonstrate the top quartile reach a ratio of less than 10% while half report a ratio less than 15% (Council of the Great City Schools, 2016). The expenses for spare buses in

Ohio for district owned buses during fiscal year 2016 were \$40,875,502.02 as shown in Appendix A.

The actual utilization of buses demonstrates many spare buses in the OSSC and the state of Ohio are unnecessary. The high number of unused buses everyday shown in Appendix A Figure A1 is a clear example of underutilization.

Actual utilization of buses appears to be a reliable measure to predict the maximum fleet size as well as the availability of buses. Review of maintenance records found little correlation to availability. The actual utilization metric provided sufficient availability for assigned buses on 98.5 percent of the 100,000 days in the Monte Carlo simulation.

The legal factors and considerations were incorporated into a sample reciprocal lease agreement (Appendix B). The lease agreement could be used as a tool by any group of neighboring school districts interested in reducing their bus inventory while maintaining access to a spare fleet for use in emergency or unforeseen circumstances.

Ohio Shared Services Collaborative

The district survey revealed school districts rely primarily on legacy models and institutional past practices for purchasing buses and fleet size decisions. The OSSC spare bus ratio for fiscal year 2016 was 31.5%, more than three times higher than industry standards and performance by other schools nationwide.

There is opportunity for districts to reduce the number of excess spare buses based on actual utilization analysis shown in Table 1. The median number of unused buses on a typical school day was 140 in fiscal year 2017. The number of unused buses in the consortium fluctuated on any given day between 122 and 191 as seen in Appendix A Figure A1.

OSSC reported a total of 300 assigned buses in fiscal year 2016. Each district's assigned buses multiplied by the industry standard of 10 percent and rounded up is a total of 38 spares. OSSC districts reported 138 actual spare buses, which is 100 buses greater than the standard. The 138 spare buses are 85 buses more than the median performance level of 15 percent using the Council of the Great City School performance metric (Council of the Great City Schools, 2016).

The industry standard calculates two or less spare buses for 85 percent of OSSC school districts. This may seem impractical for many of the districts when non-routine trips are scheduled at the same time assigned buses are operating. The number of daily unused buses shown in Figure 2 demonstrate the spare bus capacity is available for districts to achieve the industry standard through sharing spare buses with other districts.

Expenses for an OSSC spare bus were \$11,507 in fiscal year 2016 using the ODE formula (Appendix A). The annual potential savings for the consortium are \$978,108 by reducing excess spare bus inventory to the 15 percent spare bus ratio performance demonstrated by half of the Council of the Great City Schools members. Potential annual savings reach \$1,242,772 by meeting the industry standard. Capacity is available for the OSSC to eliminate at least 85 spare buses through evaluation of actual utilization and developing shared services partnerships.

Ohio

As a group, school districts in Ohio reported 12,884 assigned buses and 4,215 spare buses in fiscal year 2016 for district owned buses. This equates to a spare bus ratio of 24.7% based on the formula used by the Council of the Great City Schools. Expenses during that time period were \$9,697.63 for a spare or excess bus. Ohio school districts would need to reduce 1,941 spare buses to achieve the spare bus ratio demonstrated by half of the Council of the Great City

Schools members. Potential annual savings for Ohio's school districts exceed \$18 million per fiscal year at this level of performance. Those savings could exceed \$28 million per fiscal year by achieving the industry standard.

Conclusion and Recommendations

School district bus needs are dynamic and fluctuate from year to year when the number of assigned buses change along with variations in non-routine trips. The study of actual bus utilization at 20 school districts over a two-year period indicated there are a significant number of unused buses every school day in the state of Ohio. Shared service programs for sharing spare buses can provide the tool for school districts to achieve higher levels of performance and meet industry standards. Shared services can reduce risk of districts lacking capacity due to less spare buses during rare occasions with extremely high number of non-routine trips or atypical maintenance situations.

OSSC developed a work flow to manage the processes of school districts sharing buses. The work flow will be incorporated into the OSSC "Routes and Riders" web-based scheduling application in a release scheduled for December 2017. This module within the application is designed for users to search for available spare buses, request to borrow spare buses, approve or deny requests, and provide reports to fulfill the reciprocal lease agreement in Appendix B.

The study demonstrated it is both practical and legal for school districts to share buses. Ohio school districts need to reduce excess bus inventory and develop bus sharing partnerships to save millions of dollars annually. These savings can become funds available for school districts to redirect toward educational and classroom resources.

This feasibility study is a first of its kind that shows how technology, data analytics, research and cooperative planning can be used to help school districts reduce their cost of student transportation. This study provides a reliable and valid methodology. Ohio only needs to implement the model on a broader basis to fully realize the financial merits of this approach.

Further Opportunity

More studies are needed to further increase savings related to school district bus fleet sizes. For example, the current study assumes that any bus making a trip greater than a certain distance automatically counts as a bus used and needed that day. Many trips occur at different times throughout the day. An analysis of GPS tracking data throughout the school day is likely to reveal fewer buses are needed and additional capacity to reduce excess spares.

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Appendix A

Calculations

Table A1

School District Demographic and Geographic Characteristics

2013 Typology Code	Major Grouping	Full Descriptor	Districts Within Typology	% of Districts	% of Districts - OSSC
1	Rural	Rural - High Student Poverty & Small Student Population	124	20.4%	40%
2	Rural	Rural - Average Student Poverty & Very Small Student Population	107	17.6%	15%
3	Small Town	Small Town - Low Student Poverty & Small Student Population	111	18.2%	10%
4	Small Town	Small Town - High Student Poverty & Average Student Population Size	89	14.6%	30%
5	Suburban	Suburban - Low Student Poverty & Average Student Population Size	77	12.6%	0%
6	Suburban	Suburban - Very Low Student Poverty & Large Student Population	46	7.6%	0%
7	Urban	Urban - High Student Poverty & Average Student Population	47	7.7%	5%
8	Urban	Urban - Very High Student Poverty & Very Large Student Population	8	1.3%	0%
Color indicates one or more OSSC school districts are included in the grouping					

(Ohio Department of Education, 2017c)

Table A2

District Owned (Type I) School Bus Fleet and Spare Bus Ratio Calculations

SCHOOL DISTRICTS	FISCAL YEAR	ASSIGNED	SPARE	TOTAL	SPARE BUS RATIO
OSSC	2016	300	138	438	31.5%
OHIO	2016	12,884	4,215	17,099	24.7%

(Ohio Department of Education, 2017b)

Table A3

District Owned (Type I) School Bus Operating Expense per Spare or Excess Bus

SCHOOL DISTRICTS	FISCAL YEAR	COST PER ASSIGNED BUS	% OF ANNUAL OPERATING EXPENSES	EXPENSE PER SPARE OR EXCESS BUS	TOTAL SPARE BUS EXPENSES
OSSC	2016	\$ 57,535.74	20%	\$ 11,507.15	\$ 1,587,986.33
OHIO	2016	\$ 48,488.14	20%	\$ 9,697.63	\$40,875,502.02

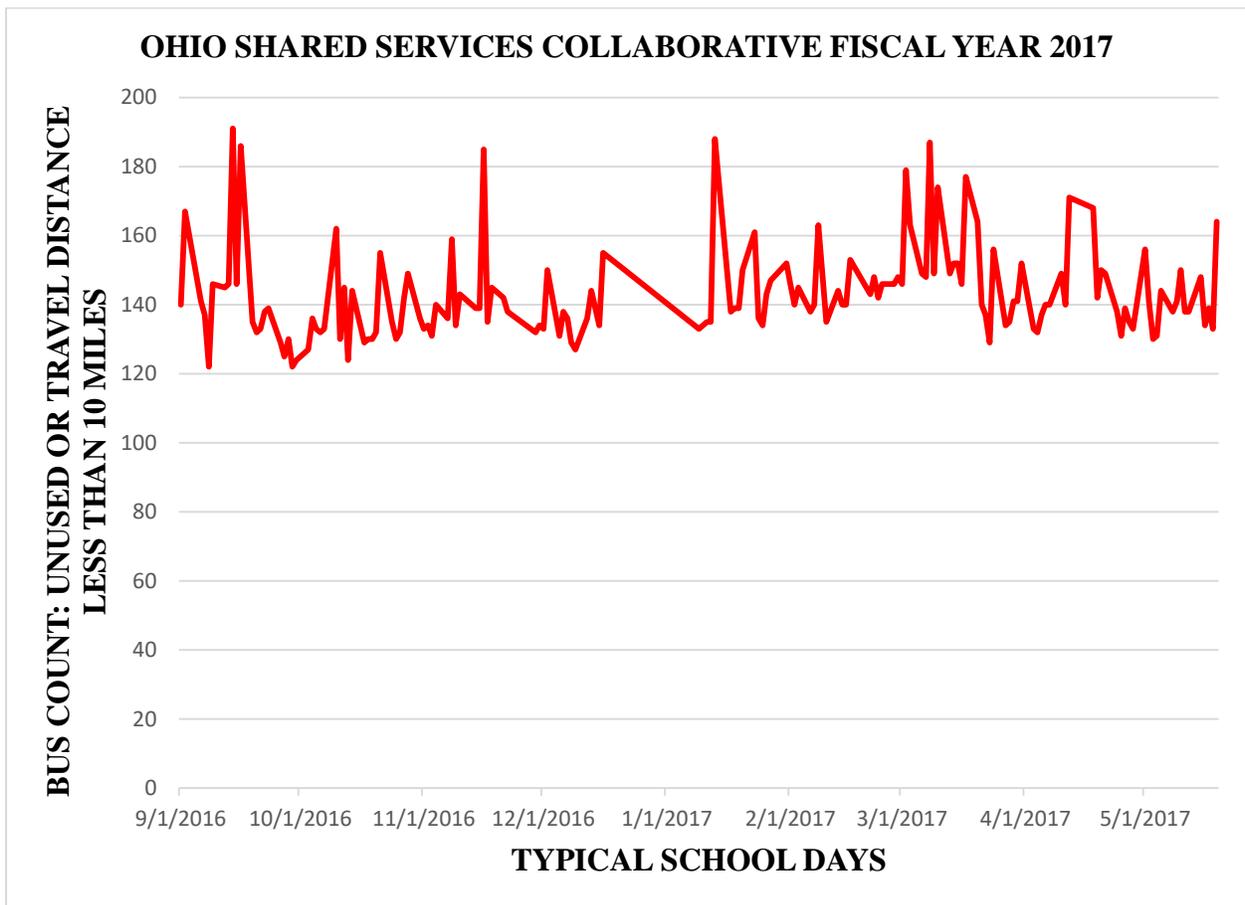
(Ohio Department of Education, 2017b)

Table A4

Potential Annual Savings Calculations

SCHOOL DISTRICTS	FISCAL YEAR	SPARE BUSES	EXPENSE PER SPARE OR EXCESS BUS	COUNCIL OF THE GREAT CITY SCHOOLS (CGCS) MEDIAN SPARE BUS RATIO	REDUCTION REQUIRED TO ACHIEVE CGCS MEDIAN	POTENTIAL SAVINGS AT CGCS MEDIAN PERFORMANCE	INDUSTRY STANDARD SPARE BUS RATIO	REDUCTION REQUIRED TO ACHIEVE INDUSTRY STANDARD	POTENTIAL SAVINGS AT INDUSTRY STANDARD
OSSC	2016	138	\$11,507.15	15%	85	\$ 978,108	10%	108	\$ 1,242,772
OHIO	2016	4,215	\$ 9,697.63	15%	1,941	\$ 18,823,096	10%	2,927	\$28,384,957

Figure A1



Appendix B

RECIPROCAL SCHOOL BUS LEASE AGREEMENT

This Reciprocal School Bus Lease Agreement (“Agreement”) sets forth the terms and conditions pursuant to which [DISTRICT NO. 1] (“District1”) and [DISTRICT NO. 2] (“District2”) (collectively “Parties”) shall mutually lease spare school buses to each other on an as-needed basis.

I. TERM.

A. This Agreement shall begin on the date this Agreement is fully executed by the Parties (“Effective Date”) and shall end on June 30th of the following year (“Initial Term”).

B. This Agreement shall automatically renew for an additional one-year term (“Renewal Term”), unless either Party provides written notice of its intention to non-renew it at least sixty (60) days before the end of the Term. The Renewal Term shall begin on July 1st and shall end on June 30th of the following year.

II. RECIPROCAL LEASE.

A. Lease. The Parties agree that during the Term of this Agreement, they both will make all reasonable efforts to maintain a fleet of school buses sufficient to meet the typical needs of their respective school districts. The Parties acknowledge that the purpose of this Agreement is to share spare school buses on an as needed basis, for the purpose of reducing the number of spare buses that either Party must maintain. Thus, each Party agrees to lease one or more school buses, on an as needed basis, to the other Party pursuant to the terms and conditions in this Agreement.

B. Request to Lease. As soon as possible after discovering that its school bus fleet is not sufficient to meet its needs for a particular time period, the Party wishing to lease one or more buses (“Lessee”) shall notify, in writing, the Party that owns the needed school bus(es) (“Lessor”). In its written request, Lessee shall inform Lessor of the number of buses requested and the time period when the school bus(es) will be needed.

C. Response to Request. Lessor shall respond, in writing, to Lessee’s written request as soon as possible. Lessor’s written response shall state whether Lessor will satisfy Lessee’s request in full, satisfy the request in part, or decline to satisfy Lessee’s request. Lessor’s written response shall provide a reason, consistent with the Terms of this Agreement, if Lessor intends to not satisfy Lessee’s request or if Lessor intends only to satisfy the request in part. Lessor agrees to satisfy Lessee’s request so long as it both: (1) will not unreasonably disturb the day-to-day operations of Lessor’s school district; and (2) does not violate the Lease Limitations set forth below.

Written requests and responses may be provided by any reasonable means, including email.

D. Lease Limitations.

1. Lessor is obligated to provide spare buses to Lessee for a cumulative total of no more than fifteen (15) bus-days per Term of this Agreement. A “bus-day” is defined as leasing one school bus for any portion of a day. For example, leasing two (2) buses for three (3) hours during a single day would constitute two (2) bus-days, and leasing one (1) bus for five (5) consecutive days would constitute five (5) bus-days.

a. Lessor may validly decline Lessee's written request if satisfying it would cause Lessor to provide Lessee with more than fifteen (15) cumulative bus-days during the Term of this Agreement.

b. The Parties' Superintendents may agree in writing to increase the number of bus-days that Lessor is obligated to provide during the current Term of this Agreement.

2. Lessor is not obligated to satisfy Lessee's request if it is made less than three (3) hours prior to the start of the time period during which Lessee needs the school bus(es).

3. Lessor is not obligated to satisfy Lessee's written request if satisfying it would require Lessor to provide a school bus to Lessee for more than three (3) consecutive days.

4. Lessor is not obligated to satisfy Lessee's written request if satisfying it would require Lessor to provide more than two (2) school buses in a single day.

5. Lessor is not obligated to satisfy Lessee's written request if satisfying it would unreasonably disturb the day-to-day operations of Lessor's school district.

E. Leasing School Buses Beyond Limitations. In its written response, Lessor may agree to lease school bus(es) beyond the Lease Limitations set forth in Paragraph II(D). Any such action shall neither set a precedent for future written responses nor modify the terms of this Agreement.

F. School Bus Identification. Each Party agrees to obtain magnetic markers that comply with the obligations of Ohio Administrative Code Section 4501-5-02(HH) for the purpose of temporarily re-identifying any leased school bus as part of Lessee's bus fleet. Lessee agrees to use such magnetic markers at all times when operating a leased bus owned by Lessor.

G. School Bus Maintenance. Except for damage to school buses due to Lessee's operation, as described in Paragraph H, Lessor shall be responsible for all maintenance to the buses it owns. Lessor shall ensure that all buses it leases to Lessee meet all state and federal standards, regulations, and laws for the maintenance and condition of school buses.

H. School Bus Condition. Lessee must return all leased school buses to Lessor in the same condition in which the buses left Lessor's property, except for reasonable wear and tear. Lessee agrees to pay for all damage that occurs in excess of reasonable wear and tear. For purposes of this Paragraph, Lessee shall be permitted to visually inspect the exterior and interior of any school bus prior to leasing it. If this inspection reveals damage to the bus beyond reasonable wear and tear, the Parties shall record the damage in a mutually agreeable document. Lessor must notify Lessee in writing of any damage to a leased bus within twenty-four (24) hours of the bus being returned to Lessor. Within forty-five (45) days, Lessee shall pay for the damages set forth in Lessor's Written Notice unless the damages were accounted for in a mutually agreeable document that specifies them, in which case Lessee shall promptly send this document to Lessor.

III. Insurance. At all times during the Term of this Agreement, the Parties agree to maintain liability insurance in the minimum amount of one million dollars (\$1,000,000) per occurrence under a plan that will cover any damage to persons or property caused by Lessee's employees' negligent operation of a school bus leased from Lessor. Both Parties agree to furnish evidence of insurance to the other Party upon request.

IV. Liability. The Parties agree that Lessee shall assume responsibility for and release Lessor from all liability for any and all damages to persons or property that occur during the operation of a leased school bus unless the damage is proximately caused by Lessor’s intentional or negligent acts, including violations of Paragraph G of this Agreement.

V. Entire Agreement. This Agreement supersedes any prior understandings and agreements between the Parties regarding the lease of school buses.

VI. Severability. If any provision or any part of a provision of this Agreement is invalid or unenforceable in any respect, it shall be ineffective to the extent of such invalidity or unenforceability only, without in any way affecting the remainder of the provision or the remaining provisions of this Agreement.

VII. Governing Law. This Agreement shall be governed, construed, and enforced in accordance with the laws of the State of Ohio (without regard to the choice of law provisions thereof).

VIII. No Third Party Beneficiaries. This Agreement is not intended to, and shall not be construed to, create any right enforceable by any person not a party hereto.

DISTRICT1

Signature

Date

Print Name

Print Title

DISTRICT2

Signature

Date

Print Name

Print Title

Appendix C

District Survey

Demographic Questions

- Name
- Role (Superintendent, Assistant Superintendent, Transportation Supervisor)
- School District

Survey Questions

1. Why do you purchase new buses? Select all that apply.
 - Replace a bus due to mileage
 - Replace a bus due to condition
 - Increased student enrollment
 - Lack of availability for non-routine transportation (sports, extra-curricular trips, field trips, etc.)
 - Other

2. How do you decide when it is time to purchase a school bus? Select one.
 - District's regular replacement cycle
 - Funds available in district budget
 - A routine daily route bus needs replaced
 - A spare bus no longer passes inspection
 - Other

3. Are there references or resources that you use to decide when to purchase a new bus or remove a bus from the fleet?
 - Yes
 - Industry standards (National or Statewide)
 - Organizations like the Ohio School Boards Association (OSBA)
 - Comparison with other local school districts
 - Other
 - No
 - Unaware of any available resources
 - Not necessary

4. What impacts the decision of the type of bus to purchase? Select all that apply.
 - Seat capacity
 - Manufacturer

- Quality
 - Cost
 - Discounts
 - Fuel economy
 - Existing fleet manufacturer
 - Mechanic expertise and/or opinion
 - Other
5. Do you consider purchasing “used” buses instead of new buses? Select one.
- Always
 - Sometimes
 - Rarely
 - Never
6. Who is involved in the decision to remove a bus from the fleet? Select all that apply.
- Ohio State Highway Patrol
 - Mechanic
 - Bus Driver
 - Transportation Supervisor
 - Superintendent
 - Treasurer
 - Other
7. How often does the district review the size of your school bus fleet? Select one.
- Weekly
 - Monthly
 - Quarterly
 - Semi-Annually
 - Annually
 - Other
8. How often does the district administration (leadership) review the school bus maintenance records? Select one.
- Weekly
 - Monthly, Quarterly
 - Semi-Annually
 - Annually
 - Other
9. What factors do you review regarding your current fleet of buses? Select all that apply.

- Age
- Maintenance expenses
- Total miles
- Fuel economy
- Seat capacity
- Driver opinions
- Mechanic opinions
- Other

10. How do you measure the effectiveness of each spare bus in your fleet? Select all that apply.

- Total miles
- Annual operating expenses
- Number of trips
- None

11. How do you decide when to remove a bus from the fleet? Select all that apply.

- Annual operating costs
- Maintenance records
- Ohio State Highway Patrol inspection reports
- Bus availability opinions from staff (teachers, coaches, ...)
- Other