



Testimony to Joint Education Oversight Committee
October 13, 2016

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Chairman Hite, Vice Chair Patterson, and members of the Joint Education Oversight Committee, on behalf of the Ohio Shared Services Collaborative, we appreciate the opportunity to share with you our testimony related to school transportation. My name is David Branch, and I am the superintendent of the Muskingum Valley Educational Service Center. Also with me are Chris Keylor, superintendent of the Ohio Valley Educational Service Center, Dan Leffingwell, superintendent of Noble Local School District, Mike Fuller, director at Muskingum Valley Educational Service Center, and Brad Hollingsworth, assistant director at Muskingum Valley Educational Service Center, who, along with me, will be available for questions when I complete my testimony.

Included in your electronic packet is today's testimony, slides referring to key points, and an article about the Ohio Shared Services Collaborative, scheduled to be published in the November issue of School Bus Fleet magazine.

The Ohio Shared Services Collaborative is a consortium centered in the rural east central and southeastern region of the state. The consortium is made up of 20 local school districts, 1 board of developmental disabilities, 4 educational service centers and 2 informational technology centers that came together in a shared services model to reduce transportation costs. The consortium school districts spend nearly \$21 million dollars each year transporting 35,000 public and non-public students to and from school each day and travel over 26,000 miles each day.

For many rural districts, the increased cost of transportation is compounded by decreased enrollment. Student enrollment in our consortium has declined by 11,000 students over the last two decades, a 27 percent decrease. In 2014, the collaborative set out to reduce the consortium fleet by 5 percent and reduce operating costs by an additional 2 percent by 2019, resulting in \$4 million dollars in savings to the consortium districts. This year marks Year 3 of our five-year project, and we have discovered \$2.1 million in projected savings to-date, with more to come.

We are using a systematic, Lean Six Sigma-based approach to address a complex problem with several moving parts and many stakeholders. We have combined three software platforms, ArcGIS, GPS and RFID, into a unique approach. More than 1,000 lines of code have been written to allow for cross-platform analysis. GPS units and RFID cards provide data points that help us understand true ridership. We have layered this data with GIS technology and mapping experts to create custom, optimized bus routes for districts.

Our project's savings are centered on four key components: reducing idle times, understanding capacity, improving routes and sharing services where it makes sense.

We have used Straight A Fund grant dollars to install nearly 450 GPS hardware and software units on the consortium fleet. These GPS units provide simple reports to analyze how long buses are idling. Through driver education, the consortium saw a 20 percent reduction in idle times in just a six-month period, resulting in annual savings of \$50,831.

Understanding capacity – both of the fleet and ridership – is critical. By reviewing GPS reports, we were able to see the consortium spare fleet is too large. On average, our districts are maintaining 25 to 30 percent more buses in their inventories than they use on any given day. Our project includes a bus sharing feasibility study to enable districts to share their excess inventory with neighboring districts. The study is on track to reduce consortium spare fleets by at least 20 buses, resulting in potential savings of \$40,000.

The GPS units selected for installation have passive radio frequency id scanners, also known as RFID technology. We have distributed nearly 35,000 bus rider Radio Frequency Identification Cards to consortium students and have captured 2.5 million data points. By walking by the scanner with their card attached to their backpack, the student's location and time for boarding and de-boarding the bus is passively captured. This data allows our analysts to understand real student ridership and just how many students are regularly riding which buses. For example, one consortium district had planned routes to support the transportation of 1,500 students based on enrollment. Our data uncovered only 1,100 students are actually riding the bus – even those who ride infrequently. By developing routes that serve bus riders and not the entire student population, districts can gain efficiency in cost. An additional benefit of the RFID cards is improved student safety. Parents can receive text or email alerts each time their student boards or departs the bus, and the districts have a record of this information as well.

Our GIS experts have partnered with consortium school districts to analyze current bus routes, bus capacity and ride time lengths to look for opportunities to reduce time and distance traveled. The mapping experts and district transportation supervisors have multiple review checkpoints and feedback opportunities on proposed routes ensuring local districts are the final decision makers.

Currently, five of our 20 consortium districts have completed the route optimization process and are projected to save more than \$376,000 dollars annually and more than \$2.1 million over the five year forecast. Another seven districts are nearing completion of route analysis with the remaining districts scheduled to complete route analysis in Year 3 of our project. By reconfiguring current routes to more efficient models, districts have the potential to save driver salary and benefits, overtime and fuel costs. Reducing the number of bus routes takes dollars that are going out of the tail pipes of school buses and put those dollars back in classrooms.

Project funds were used to develop an online application designed to facilitate scheduling and communication both in and cross-districts. This application, called OSSC Routes & Riders, provides districts with electronic, up-to-date rider lists, route maps and detailed route information with stop addresses and times. A pre-packaged software solution will not develop a shared spare fleet among districts or a shared route that crosses district borders to common destinations. A prime example of this opportunity is the transportation of students to career centers. Every morning and afternoon, school districts within the consortium transport students to shared destinations like career centers. By developing a shared route, districts can reduce driver, fuel and fleet expenses. A feasibility study is underway to understand how districts can share fleets and even maintenance facilities.

So how is what we are doing different from previous transportation studies or off-the-shelf solutions? Past transportation initiatives have tried to solve challenges based on a limited amount of analytical data, the boundaries created by Ohio's more than 600 school districts and a lack of resources to tackle the issues at the local level. Districts are open to the possibilities our project creates, but lack the human resources, financial means or tools to make it happen on their own. Many districts have tried to find ways to decrease transportation operating expenses themselves by purchasing off-the-shelf routing software or installing GPS units to monitor their fleet's travels. Districts often lack the resources

or analysis to really dig into the data. It was not until the problem was approached with collaboration and coordination by ESCs and ITCs that progress toward identifying efficiencies occurred.

The Ohio Shared Services Collaborative is working to solve transportation challenges free of limitations, using only two constraints: 1) the student's address and 2) existing roadways. All other factors, including bell times, district boundaries, shared fleets and shared routes, are up for consideration.

Ohio currently spends \$607 on transportation per pupil within our consortium, representing 6 percent of total spending per pupil. By increasing per pupil spending by merely 4 percent, we could expand our pilot to a larger region that represents 22% of the state. The per pupil incremental expenditure spans a five-year period with Year 1 costs of \$24.80, Year 2 costs of \$17.89 and subsequent years cost of \$16.51. Expenses related to GPS units and installation and RFID cards are front loaded to the beginning of the pilot expansion.

We are tackling an Ohio problem with an Ohio solution. Our project is scalable and can work in any scenario where districts are willing to partner in a shared services model. The concept is self-sustaining through cost savings and reductions to operating expenses. We believe the shared services model applied to transportation is an answer for districts faced with rising costs and reduced enrollments.

Chairman Hite, thank you for this opportunity to offer this testimony, and we stand ready to respond to questions at the pleasure of the chair.