Office of Superintendent of Public Instruction

Student Transportation

Transportation Efficiency Review of 2015-16 School Year Transportation Operations

for Lopez Island School District

5/12/2017

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Executive Summary

Lopez Island School District had a full time equivalent enrollment for the 2015–16 school year of 234.67 students. Of those enrolled, Lopez Island provided home-to-school transportation service for an average of 207 basic program riders and no special program riders per day (combined AM and PM student counts). The district operated 4 school buses to provide this service, at a cost of $119,438.65. The March 2017 relative efficiency rating for Lopez Island School District (based on data from the 2015-16 school year) was 100%.

Lopez Island School District's March 2015 relative efficiency rating (based on data from the 2013–14 school year) was 80.10% and the March 2016 relative efficiency rating (based on data from the 2014–15 school year) was 74.00%.

A review by the Regional Transportation Coordinator (RTC) is required for school districts with a relative efficiency rating less than 90%. RTCs also conduct follow-up reviews for districts moving above 90%. The RTC review was conducted by Anna Esquibel from Northwest Educational Service District 189.

The purpose of this report is to identify changes implemented in the district's transportation operations since the 2014-15 school year.

The regional transportation coordinator found that the most significant factors affecting the district's improved relative efficiency rating were:

- A slight reduction in prior year expenditures
- An increase of one student drop off destination

A change from a cohort group of three other districts to no cohorts resulting in an automatic 100% efficiency rating.

Overall Summary:

When comparing a district's "efficiency cohorts" it is important to note that significant one-time costs, disproportionate reoccurring costs, unique geography, sparsity of students, lack of road connectivity, socioeconomic factors, rural vs. urban, land area, length of bus routes, competitive negotiated agreements, or other unique or inequitable operational factors can impact a district's efficiency score. Unique site characteristics, like or similar to those cited above, can limit a district's ability to optimally configure routing schemes or contain costs. Consequently, when competing and inequitable factors affect the outcome, some districts may repeatedly fall below the 90% efficiency target.

Lopez Island School District is operating efficiently which has been accomplished despite the lack of roadway connectivity on the island which limits options to maximize efficient routing. In addition, because Lopez Island School District is bound by water, routine off-island repairs are costly due to use of the ferry and associated hourly cost for transport.

Report Process and Review Methodology

A detailed description of the STARS efficiency rating process is available upon request. The detailed rating process description provides detailed guidance of the rating calculation.

Key Performance Indicators (KPI) material is included in this document, but for an explanation of each indicator and the methodology, please see the Key Performance Indicators Technical Assistance Paper, which is available upon request.

The approach used for the 2017 review of a school district's transportation program involves four sections:

1. Review of the district's STARS relative efficiency rating;
2. Review of the district's Key Performance Indicators (KPI);
3. Review of the school district's school transportation operations, including identifying constraints and changes from prior years (if any); and
4. Comments on the material provided by the regional transportation coordinator and school district staff.

Using this process, the district's transportation program is evaluated for the efficient use of state fiscal resources. The goal of this process is to attempt to identify best practices that districts can apply to minimize the costs of operating their transportation service.

Section One: STARS Relative Efficiency Rating

The STARS efficiency rating system uses Data Envelopment Analysis to calculate a relative efficiency rating for each school district's transportation operations. The results are displayed in the STARS Efficiency Detail Report.

The relative efficiency rating for the Lopez Island School District, which was released in March of 2017, was 100%. As a result, there is no longer a requirement for an efficiency review of the district's transportation operations.

Regional Transportation Coordinator Analysis:

Transportation operations and a school district's efficiency score is often influenced by operational changes made by other efficiency cohort school districts.

In the case of Lopez Island School District, the greatest impact on its efficiency score appears to have been an increase in one student drop-off destination. Lopez Island School District was not compared to an efficiency cohort group in this year's report which may have contributed to their excellent efficiency rating. Efficiency measures were taken by the district and expenditures were decreased by $14,364.00.

Section Two: Key Performance Indicators

Key Performance Indicators (KPIs) are useful in comparing and evaluating specific operational outcomes. This section of the efficiency review process uses three Key Performance Indicators (KPI): the average number of basic program riders per basic program bus; the average number of special education riders per special education bus; and the average cost per rider. These three comparative measurements embody a quantitative process where the outcome is readily visible and easily understood. The comparative results provide a quick analytical assessment based on a ranking order. These three KPI are helpful in translating efficiency into "ground level" concepts.

In addition to each district's KPI, a KPI cohort is developed. The KPI cohort is comprised of the 20 most similar districts (ten above and ten below) to Lopez Island School District based on total ridership.

A. Basic KPI Riders

Basic Program Riders per Basic Program Bus KPI by School Year

2013-14	2014-15	2015-16	Change 2014-15 to 2015-16
25.53	26.52	25.89	-2.37%

This KPI attempts to measure the efficiency of the district's basic program transportation by calculating the average number of students carried on basic program school buses.

General comment: independent of other factors, an **increase** in the number of basic riders per basic school bus from year to year reflects an **increase** in efficiency.

Regional Transportation Coordinator Analysis:

In the 2014–15 school year, Lopez Island School District transported an average of 26.52 basic program students per basic program bus. In the 2015–16 school year, this changed to an average of 25.89 basic program students per bus. This was a decrease of -2.37%.

The district ranks 11th in the Basic Riders KPI within their 21 district KPI cohort. The average basic students per basic bus among all 1st quartile districts statewide is 20.48.

B. Special Education Rider KPI

Special Education Riders per Special Education Bus KPI by School Year

2013-14	2014-15	2015-16	Change 2014-15 to 2015-16
0	0	0	0%

Regional Transportation Coordinator Analysis:

This KPI attempts to measure the efficiency of the district's special education transportation by calculating the average number of students carried on special education school buses. It is important to note that special education students may require specialized transportation that limits a district's ability to maximize bus utilization. In special education transportation, student needs preempt efficiency concerns.

General comment: independent of other factors, an **increase** in the number of special education riders per special program school bus from year to year reflects an **increase** in efficiency.

Lopez Island School District had no students requiring special education transportation services, this KPI is of minimal value except for confirming year to year service requirements.

C. Cost per Rider KPI

Cost per Student KPI by School Year

2013-14	2014-15	2015-16	Change 2014-15 to 2015-16
$ 4,454.2	$ 3,172.44	$ 3,394.62	7. %

Regional Transportation Coordinator Analysis:

This KPI attempts to measure the overall efficiency of the district's transportation operation by calculating the average cost of transporting a student.

General comment: independent of other factors, a **decrease** in the average cost of transporting a student from year to year reflects an **increase** in efficiency.

In the 2014–15 school year, Lopez Island's average cost per rider was $3,172.44. In the 2015–16 school year, the district's average cost per rider was $3,394.62. The increase of 7%.cost per student is considered a decrease in efficiency.

The district ranks 13th in the Cost per Rider within their 21 district KPI cohort. The average cost per rider among all 1st quartile districts statewide is $2,671.74

.
For districts able to break out the average cost per student between the basic program and the special education program, the year to year change in these values can assist the district in evaluating their transportation operations. However, the workload to break out these costs by program can be substantial.

Section Three: Review of District Transportation Operations

The review of district transportation operations is grouped in three areas:

- Policies and Procedures
- Transportation Operations
- Geographic and Other Constraints

The goal of the district review process is to identify changes that the district has made that impact the cost of providing transportation service. The identification of constraints the district faces can help in identifying solutions so that these solutions can be shared with other districts.

A. Policies and Procedures

Policies are the desired high level outcomes as articulated by the school district board of directors. The school district administration and transportation staff develop procedures to accomplish the policy objectives. Examples may include providing transportation for out-of-district 'choice' students or establishing a 2-mile walk area for high school students.

Regional Transportation Coordinator Observations:

The Lopez Island School District has conservative and reasonable policies that support the safe and efficient operation of to/from school bus transportation.

B. Transportation Operations

Transportation operations include all the organizational processes used to manage and run the transportation program on a daily basis from routing to payroll. The age of the fleet impacts maintenance costs, as does a good preventative maintenance program. Any district changes in operations that could significantly impact the efficiency or cost of operations should be noted. Examples include combining routes to reduce the number of buses or increasing buses to reduce student ride times.

Regional Transportation Coordinator Observations:

Transportation Expenditures (STARS Prior Year Expenditures) by School Year

2013-14	2014-15	2015-16
$2,725,457.52	$2,834,918.21	$2,959,562.96

District's transportation expenditures increased 3.87% between 2013-14 and 2014-15, and increased 4.22% between 2014-15 and 2015-16.

The District analyzed and made the decision to change from using the short to the long form method to allocate costs back to programs for extra trips in the 2015-2016 school year. This is the most likely reason there was a drop of $7,123 for credit transfers between the 2014-15 and 2015-16 school years.

C. Geographic and Other Constraints

Geographic constraints can impact the ability of a school district to maximize efficiency. Identifying methods to minimize the impacts of constraints can assist other districts facing similar challenges. Examples of constraints include geographic constraints such as large bodies of water, minimal student density or urban traffic congestion.

Regional Transportation Coordinator Observations:

Lopez Island School District is bound by water. This means that roads eventually dead end. The lack of roadway connectivity limits options to maximize efficient routing.

Section Four: Comments

A. Comments Regarding the STARS Efficiency Rating

Regional Transportation Coordinator Comments:

Providing school districts an easy to understand validation of the STARS efficiency rating system is problematic because of the complexity of the mathematical process and the multitude of unique district student transportation operational factors not included in the STARS calculation. Consequently, this can skew the district's relative efficiency score.

Student transportation dynamics unique to school districts that STARS cannot or does not equitably consider minimizes the accuracy of this complicated efficiency rating system. A school district may be extremely limited in its ability to control unique site characteristics that may be contributing to an unfair cohort selection and peer comparison. Unique

geography, negotiated salaries and benefits, a one-time expense targeting improved student safety, maintaining an operational standard, geo-economic differences, or something as simple as a lower than average fleet age are examples of differing variables between school districts that the efficiency rating system cannot equitably compare.

Using both the STARS Efficiency Review process and the KPI process can present the district with an opportunity to evaluate two measuring methodologies in concert, which can provide a more accurate approach for appraising overall efficiency and operational performance.

There is a significant offset between the time of an efficiency review and the time when changes to transportation operations can be implemented. Many changes in transportation operations can only be made at the beginning of a school year. Because changing bell times or other operational changes have a significant impact on parents, students and district staff, changes must be undertaken in a manner that provides an opportunity for involvement of all stakeholders. In some cases, changes are also subject to bargaining agreement constraints.

School District Comments:

The district has no additional comments.

B. Comments Regarding the KPI

Regional Transportation Coordinator Comments:

Using both the STARS Efficiency Review process and the KPI process can present the district with an opportunity to evaluate two measuring methodologies in concert, which can be a more accurate approach for appraising overall efficiency and operational performance.

Lopez Island School District compares favorably among its KPI cohort school district group in Basic Riders per Basic Bus and excels at keep their Cost per Student low.

School District Comments:

The district has no additional comments.

C. Comments Regarding the District Transportation Operations Review

Regional Transportation Coordinator Comments:

Lopez Island School District has been proactive in the areas of clean accounting and efficiency. The district faces challenges inherent with remote locations, but they keep their expenditures down and they continue to make excellent choices for safety, and efficiency.

School District Comments:

The district has no additional comments.

D. District Comments Regarding the RTC Efficiency Review Process

The district has no additional comments.

State of Washington

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Superintendent of Public Instruction

School Year 2016-2017 - Lopez School District

Efficiency Detail Report

LOPEZ

					Workload		Site Characteristics (>)				Site Characteristics (<)	
Cohort	**District**	**Weight**	**Prior Year Expenditures**	**Buses**	**Basic Riders**	**Special Riders**	**Avg Distance**	**Number of Dest.**	**Land Area**	**K Rte**	**Road Miles per Sq Mile**	**Students Per Road Mile**
	Lopez		$119,438.65	4	207	0	3.50	2	34.3	0	4.71	1.28
Cohort	Lopez	100.0%	$119,438.65	4	207	0	3.50	2	34.3	0	4.71	1.28
Target	Lopez Target	100%	$119,438.65	4								

Relative Efficiency Rating 100.00%

Site Characteristics (>) are those characteristics where a larger number is more challenging

Site Characteristics (<) are those characteristics where a smaller number is more challenging

Office of Superintendent of Public Instruction

Student Transportation

Key Performance Indicators
Technical Assistance Paper
Customized for Lopez School District

April 2017

Overview

The use of Key Performance Indicators (KPI) provides a straightforward method of analyzing school district transportation operational efficiency.

The Office of Superintendent of Public Instruction (OSPI) and the Regional Transportation Coordinators (RTCs) have standardized the use of three widely recognized KPI:

1. Basic program riders per basic program bus;
2. Special education riders per special education bus; and
3. Average cost per rider.

The value of KPI cannot be analyzed independent of a school district's characteristics. For instance, a rural district may be unable to fill a school bus given the student density. In a similar way, a school district's special education rider KPI is constrained by the number of special education students, where they live and their transportation requirements.

The three KPI are evaluated using the information gathered through the STARS system. The analysis is done across multiple school years to determine trends in student ridership and the cost of transportation service.

The KPI can also be used in comparison to other districts. Since larger districts have more ability to take advantage of economies of scale, the comparison to other districts is done using 20 districts that are close in total student ridership.

Districts wishing additional information or analysis on this report should contact their regional transportation coordinator. Contact information is available at: http://www.k12.wa.us/Transportation/coordinators.aspx

Discussion of the Key Performance Indicators

Key Performance Indicators are sometimes referred to as "benchmarks". The current view within the industry is that the term benchmark has connotations of being a one-size-fits-all standard that provides a hard quantitative line between efficient and inefficient transportation operations. However, actual student transportation operational efficiency is subject to many conditions totally outside school district control. For instance, the geographic distribution of students may place severe constraints on the district's operational efficiency. As an example, in a rural district there may be one student living a great distance up a canyon or isolated highway. Similarly, a special

education student may require expensive individualized transportation service. Two districts with otherwise similar conditions may vary in their relative efficiency rating or KPI numbers due to situations such as these. KPI by themselves do not reveal the existence of these extenuating factors (nor does the STARS Efficiency Rating).

The primary strength of KPI is when they are used over time to provide an ongoing method of evaluating one district's transportation operations. Year to year review of the basic statistics revealed by the KPI should be an essential part of each district's self-evaluation of their transportation department's performance.

Some additional description of these individual KPI and how the data collected through STARS is used to calculate each KPI may help to clarify their relevance and their impact on a district's STARS efficiency rating.

Basic Program Riders per Basic Program Bus

The number of basic program riders per basic program bus is a critical measure of efficiency. For calculating the riders per bus, the total student ridership count (the combined AM plus PM count collected through the STARS reporting process) is divided by two in order to reflect students per bus. The number of buses used is collected from STARS routing data.

Special Education Riders per Special Education Bus

As in the basic riders KPI, the total special education student ridership count (combined AM plus PM) is divided by two and the bus count is collected from STARS route data.

Washington Administrative Code (WAC) 392-172A-02095 says that school districts should, when possible, limit the one-way transportation times for special education students to no more than 60 minutes. A district may also have one or more students with an IEP that requires individual transportation (without other students). These two factors can restrain efficiency.

Greater inclusion of special needs students onto basic education buses is to be encouraged where possible. Greater inclusion may result in fewer overall special education routes (reducing expenditures), but may result in lower special riders per special bus ratios … since the remaining special needs students may demand a higher level of individualized service.

Overall, this KPI category is one that should be carefully evaluated to ensure that student needs are prioritized.

Average Cost per Rider

This KPI provides the district's average cost of transporting students to school. Again, the total student ridership count (combined AM plus PM) is divided by two in order to reflect an average cost per student. This KPI reflects all students provided with transportation in the special program categories and not just special education students.

Special education students typically will generate a significantly higher cost per student due to fewer students per bus, greater distances between stops and

longer routes. Districts that are able to break out costs between basic program and special program are encouraged to do so for the additional benefit it will provide.

District KPI

The Lopez School District's KPI are as follows:

1. Basic program riders per basic program bus KPI

Basic Rider KPI 2013-14	Basic Rider KPI 2014-15	Basic Rider KPI 2015-16	Change in Basic Rider KPI
25.53	26.52	25.89	- 2.37%

General comment: independent of other factors, an increase in the number of basic riders per basic school bus from year to year reflects an increase in efficiency.

2. Special education riders per special education bus KPI

Special Ed Rider KPI 2013-14	Special Ed Rider KPI 2014-15	Special Ed Rider KPI 2015-16	Change in Special Ed Rider KPI
.0	.0	-	.0 %

General comment: independent of other factors, an increase in the number of special education riders per school bus from year to year reflects an increase in efficiency.

If a school district does not have special education students requiring transportation, this KPI has limited meaning, except to be noted when comparing the overall cost per rider KPI with another district of similar size that does have special needs students requiring transportation.

3. Average cost per rider KPI

Average Cost per Rider KPI 2013-14	Average Cost per Rider KPI 2014-15	Average Cost per Rider KPI 2015-16	Change in Average Cost per Rider KPI
$ 1,422.56	$ 1,140.08	$ 1,153.3	1.16%

General comment: independent of other factors, a decrease in the average cost per rider from year to year reflects an increase in efficiency.

Cohort District KPI

To further provide comparison with similar districts, a KPI cohort is developed. This cohort is based on sorting all school districts by total students transported and selecting ten districts above and below the district in question, when possible. For districts at either end of the student load spectrum, the closest twenty are selected. The resulting group is referred to as the KPI cohort. Each district is compared within this group for each KPI. The next four pages show the four tables developed to display the KPI Cohort information. Each table has the district highlighted in yellow. The sort order of each table is determined based on having the number representing the greatest efficiency at the top of the table.

Generally, if all districts had exactly identical student ridership requirements, identical geographic constraints and were similar in the other factors impacting the efficiency of transportation of operations, the districts should remain in the same order. A rise in the

district placement in a KPI table indicates more efficient operations compared to the districts lower in the table. A drop in placement reflects less efficient operations relative to the other districts.

KPI Technical Assistance Paper
April, 2017

Table 1

Table 1 shows the KPI cohort group. This table shows the districts that will be used for comparison in the following tables. It may be worthwhile noting the range in student ridership within the cohort, as larger student ridership provides more opportunities for routing efficiently. These are referred to as 'efficiencies of scale' and are common in all efficiency evaluations.

District	Total Riders 2015-16
DARRINGTON	126.4
NESPELEM	122.7
MORTON	117.1
TROUT LAKE	113.0
MARY M KNIGHT	111.5
CUSICK	110.9
LYLE	107.7
CRESCENT	107.3
PATEROS	104.1
WILBUR	103.8
LOPEZ	103.6
ORCAS ISLAND	102.9
COULEE-HARTLINE	101.9
ROSALIA	101.4
COLUMBIA (STEVENS)	100.6
BOISTFORT	93.5
QUILCENE	93.3
CURLEW	86.8
TOUCHET	84.9
NORTHPORT	84.2
DAYTON	81.4

Table 2

This table shows the districts sorted in descending order by the value of their Basic Rider per bus KPI.

Change in rank	District	Total Riders 2015-16	Basic Riders Per Basic Bus 2015-16
+10	TROUT LAKE	113.0	37.7
+9	CRESCENT	107.3	35.8
+8	PATEROS	104.1	34.6
+7	ORCAS ISLAND	102.9	33.3
+6	DARRINGTON	126.4	31.0
+5	MORTON	117.1	29.9
+4	NESPELEM	122.7	29.5
+3	TOUCHET	84.9	28.3
+2	MARY M KNIGHT	111.5	27.8
+1	LYLE	107.7	26.8
	LOPEZ	103.6	25.9
-1	ROSALIA	101.4	25.3
-2	BOISTFORT	93.5	23.4
-3	CUSICK	110.9	22.2
-4	CURLEW	86.8	21.7
-5	QUILCENE	93.3	18.2
-6	DAYTON	81.4	17.7
-7	WILBUR	103.8	17.3
-8	NORTHPORT	84.2	16.8
-9	COLUMBIA (STEVENS)	100.6	16.8
-10	COULEE-HARTLINE	101.9	14.4

Table 3

This table shows the districts sorted in descending order by the value of their Special Education riders per Special Education bus KPI.

Change in rank	District	Total Riders 2015-16	SpEd Riders Per SpEd Bus 2015-16
+10	DAYTON	81.4	5.8
+9	DARRINGTON	126.4	3.6
+8	MORTON	117.1	2.6
+7	QUILCENE	93.3	2.4
+6	COULEE-HARTLINE	101.9	1.0
+5	LYLE	107.7	0.8
+4	NESPELEM	122.7	-
+3	TROUT LAKE	113.0	-
+2	MARY M KNIGHT	111.5	-
+1	CUSICK	110.9	-
	CRESCENT	107.3	-
-1	PATEROS	104.1	-
-2	WILBUR	103.8	-
-3	LOPEZ	103.6	-
-4	ORCAS ISLAND	102.9	-
-5	ROSALIA	101.4	-
-6	COLUMBIA (STEVENS)	100.6	-
-7	BOISTFORT	93.5	-
-8	CURLEW	86.8	-
-9	TOUCHET	84.9	-
-10	NORTHPORT	84.2	-

For districts without Special Education students requiring specialized transportation, the table is only useful while reviewing potential reasons for differences in the next table, Average Cost per Rider.

Table 4

This table shows the districts sorted in ascending order by the value of their Cost per Rider KPI. This sorts reflects that efficiency in this KPI is reflected by a lower cost per student, rather than higher numbers of riders per bus.

Change in rank	District	Total Riders 2015-16	Cost Per Rider 2015-16
+10	CRESCENT	107.3	$ 707.78
+9	CURLEW	86.8	$ 873.63
+8	TOUCHET	84.9	$ 1,092.95
+7	LOPEZ	103.6	$ 1,153.30
+6	TROUT LAKE	113.0	$ 1,352.72
+5	NESPELEM	122.7	$ 1,393.17
+4	BOISTFORT	93.5	$ 1,539.46
+3	DARRINGTON	126.4	$ 1,587.47
+2	PATEROS	104.1	$ 1,663.54
+1	CUSICK	110.9	$ 1,757.21
	ORCAS ISLAND	102.9	$ 1,846.54
-1	MORTON	117.1	$ 1,862.79
-2	ROSALIA	101.4	$ 1,870.54
-3	MARY M KNIGHT	111.5	$ 1,991.95
-4	COLUMBIA (STEVENS)	100.6	$ 2,243.02
-5	LYLE	107.7	$ 2,304.22
-6	WILBUR	103.8	$ 2,368.01
-7	NORTHPORT	84.2	$ 2,411.30
-8	COULEE-HARTLINE	101.9	$ 2,510.49
-9	QUILCENE	93.3	$ 2,554.79
-10	DAYTON	81.4	$ 2,770.81