

Office of Superintendent of Public Instruction

Student Transportation

Transportation Efficiency Review of 2016-17 School Year Transportation Operations

for Mount Baker School District

5/16/2018

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Executive Summary

Mount Baker School District had a full time equivalent enrollment for the 2016-17 school year of 1,818.8 students. Of those enrolled, Mount Baker provided home-to-school transportation service for an average of 2,055.375 basic program riders and 75.87 special program riders per day (combined AM and PM student counts). The district operated 24 school buses to provide this service, at a cost of $1,439,983.18.

The efficiency system target for Mount Baker School District would be to operate 21.26 school buses at a cost of$1,275,580.53. The district's relative efficiency rating based on data from the 2016-17 school year is 88.58%.

For school districts with a relative efficiency rating less than 90%, a review by the Regional Transportation Coordinator (RTC) is required. The RTC review was conducted by Anna Esquibel. RTCs also conduct reviews for districts moving above 90%.

The regional transportation coordinator found that the most significant factors constraining the district's transportation operating costs and efficiency were:

- The lack of roadway connectivity and a sparse student population affects efficiency, which is further compounded by geographic constraints including mountains, lakes and rivers. The result is that the district has a higher than average cost per student for transportation.
- The district must pick up most students within the attendance walk area because almost all walk areas have been determined to be hazardous.
- District-wide transportation is provided to two (2) magnet schools

Suggested areas to evaluate for improvement in efficiency are:

- Continue to look for efficiencies in routing Special Education students.

Overall Summary:

- The district has continued to make progress towards more efficient routing.
- Geographic constraints will continue to be a challenge and obstacle to achieving more efficiency.

Report Process and Review Methodology

A detailed description of the STARS efficiency rating process is available online at Student Transportation Allocation Reporting System web page under Efficiency Ratings. That webpage also provides descriptions 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 available online at the website referenced above.

The approach used for the 2018 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 operational details, including identifying constraints and changes from prior years (if any); and
4. Comments on the material provided by the regional 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

For Mount Baker School District, the March 2018 relative efficiency score (based on data from the 2016-17 school year) was 88.58%. The Efficiency Detail Report including the cohort districts and predicted resource requirements is provided in Appendix I.

> In the 2016-17 school year, Mount Baker School District reported operating 24 buses to transport a ridership count (combined AM plus PM) of 2,130 students with expenditures of $1,439,983.18. The efficiency rating calculation identified target expenditures of $1,275,580.53 while operating 21.26 buses.

Mount Baker's March 2016 relative efficiency rating (based on data from the 2014-15 school year) was 83.87% and the March 2017 relative efficiency rating (based on data from the 2015-16 school year) was 88.47%.

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.

Section Two: Key Performance Indicators

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 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 based on total ridership.

Basic Rider KPI

Basic Program Riders per Basic Program Bus KPI by School Year			
2014-15	2015-16	2016-17	Change 2015-16 to 2016-17
63.69	57.73	63.24	9.54%

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 2015-16 school year, Mount Baker transported an average of 57.73 basic program students per basic program bus. In the 2016-17 school year, this changed to an average of 63.24 basic program students per bus. This was an increase of 9.54%.

The district ranks 11th in the Basic Riders KPI within their 21-district KPI cohort. The average basic students per basic bus among all 3rd quartile districts statewide is 60.77.

Special Education Rider KPI

Special Education Riders per Special Education Bus KPI by School Year			
2014-15	2015-16	2016-17	Change 2015-16 to 2016-17
3.79	5.12	4.2	- 17.86%

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 basic school bus from year to year reflects an **increase** in efficiency.

In the 2015-16 school year, Mount Baker transported an average of 5.12 special education students per special education bus. In the 2016-17 school year, the district transported an average of 4.2 special education students per bus. This was a decrease of -7.86%.

The district ranks 21st in the Special Education Riders KPI within their 21-district cohort. The average Special Riders per Special Bus among all 3rd quartile districts statewide is 7.58.

Cost per Rider KPI

Cost per Student KPI by School Year			
2014-15	2015-16	2016-17	Change 2015-16 to 2016-17
$ 1,252.83	$ 1,279.09	$ 1,351.3	5.65%

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 2015-16 school year, Mount Baker's average cost per rider was $1,279.09. In the 2016-17 school year, the district's average cost per rider was $1,351.3 . This was an increase of 5.65%.

The district ranks 20th in the Cost per Rider within their 21-district KPI cohort. The average cost per rider among all 3rd quartile districts statewide is $1,182.55.

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.

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:

Mount Baker School District's transportation policies are supportive of efficiency. The district does not provide out of district "choice" transportation. Seat time is limited to 60 minutes when feasible.

The district policy is to provide transportation to and from school for students whose residence is beyond the one mile radius from the school to which those students are assigned.

- Students may be required to walk up to one mile from their home to their bus stop if the walking route is safe.
- However, the district transports most students within the attendance walk area because almost all walk areas surrounding the schools meet hazardous criteria.

The district transports students to two magnet programs, which is costly given the large geographic area of the district:

- The Special Education Behavior program is sited at Kendall Elementary, a non-centrally located school, and
- The Special Education Intensive Learning Center is sited at Harmony Elementary, a non-centrally located school.

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		
2014-15	2015-16	2016-17
$1,373,729.46	$1,401,483.93	$1,439,983.18

The district had a conservative increase in expenditures between 2015-16 and 2016-17 due primarily to cost of living pass-through and routine changes for employees on the salary schedule.

Mount Baker uses the "Short Form" and provides updated calculations for transportation costs each October.

In the 2016-17 school year:

- A decline in student enrollment may have resulted in slightly fewer extra trips, which is reflected in lower credit transfers.
- Purchase services were less expensive as bus maintenance shifted from contracted to in-house.
- Capital outlay increased because purchases for:
  1. Shop equipment.
  2. Approximately 18 GPS units.

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:

Mount Baker School District is geographically the second largest district in the state. The lack of roadway connectivity is associated with the Cascade Mountain Range as well as limited access across the North, Middle and South forks of the Nooksack River. Lake Whatcom, which is the seventh largest lake in Washington State, includes remote pockets of student rider populations that reside around the Lake.

The identified constraints significantly reduce the district's options to maximize efficient routing.

Section Four: Comments

Comments Regarding the STARS Efficiency Rating

Regional Transportation Coordinator Comments:

Mount Baker School District continues to make a great effort to combine and streamline routing in within challenging geographic constraints. The district has shown a steady improvement in efficiency ratings over the past three years.

School District Comments

The district has no additional comments.

Comments Regarding the KPI

Regional Transportation Coordinator Comments:

Efficiencies in this area declined slightly. The district is challenged with the land area served and the existence of two magnet schools for specialized programs. However, last year, the district did reduce four buses for daily transportation.

School District Comments

The District concurs with the results of this review.

Comments Regarding the District Transportation Operations Review

Regional Transportation Coordinator Comments:

Mount Baker School District has been a great partner in providing important information for efficiency reviews. I appreciate the cooperation and positive attitude. Many observations have been noted and acted upon for improved efficiency.

School District Comments

The District concurs with the results of this review.

District Comments Regarding the RTC Efficiency Review Process

The District appreciates the continued participation and advice of Anna Esquibel in examining our program and providing these results in detail.

State of Washington

Run: Mar 22, 2018 8:02 AM

Superintendent of Public Instruction

School Year 2017-2018 - SD Desc

Efficiency Detail Report

MOUNT BAKER

					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**
	Mount Baker		$1,439,983.18	24	2,055	75	6.34	8	358.7	0	1.91	3.11
Cohort	Mount Adams	2.2%	$657,303.96	9	880	26	7.95	6	1,280.1	0	2.13	0.33
Cohort	North Franklin	41.5%	$1,225,319.41	24	2,007	37	12.23	9	592.7	0	1.44	2.40
Cohort	Quillayute Valley	4.0%	$424,675.64	8	897	81	5.51	3	411.6	0	2.13	1.12
Cohort	Quincy	42.2%	$1,338,912.59	19	2,135	76	7.75	7	446.6	0	1.46	3.39
Cohort	Toppenish	3.5%	$1,079,401.31	17	2,460	123	3.02	9	268.6	0	1.41	6.80
Cohort	Wenatchee	6.6%	$2,017,995.21	33	2,728	299	3.59	17	162.9	0	3.10	6.00
Target	Mount Baker Target	100%	$1,275,580.52	21								

Relative Efficiency Rating 88.58%

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 Mount Baker School District

April 2018

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 Mount Baker School District's KPI are as follows:

1. Basic program riders per basic program bus KPI

Basic Rider KPI 2014-15	Basic Rider KPI 2015-16	Basic Rider KPI 2016-17	Change in Basic Rider KPI
63.69	57.73	63.24	9.54%

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 2014-15	Special Ed Rider KPI 2015-16	Special Ed Rider KPI 2016-17	Change in Special Ed Rider KPI
3.79	5.12	4.2	- 17.86%

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 2014-15	Average Cost per Rider KPI 2015-16	Average Cost per Rider KPI 2016-17	Change in Average Cost per Rider KPI
$ 1,252.83	$ 1,279.09	$ 1,351.3	5.65%

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.

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 2016-17
TOPPENISH	1,292.1
LYNDEN	1,289.4
NORTH MASON	1,275.1
WEST VALLEY (SPOKANE	1,262.7
ROCHESTER	1,255.1
PORT ANGELES	1,231.3
PROSSER	1,195.8
ORTING	1,167.3
WALLA WALLA	1,165.9
QUINCY	1,105.9
MOUNT BAKER	1,065.6
NORTH FRANKLIN	1,022.6
DIERINGER	990.0
DEER PARK	976.4
NOOKSACK	975.7
GRANDVIEW	950.4
ELLENSBURG	924.5
EPHRATA	923.6
CHEHALIS	908.3
BLAINE	896.3
WAHLUKE	864.9

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 2016-17	Basic Riders Per Basic Bus 2016-17
+10	ORTING	1,167.3	94.5
+9	NOOKSACK	975.7	91.6
+8	TOPPENISH	1,292.1	87.9
+7	LYNDEN	1,289.4	83.9
+6	DIERINGER	990.0	81.4
+5	GRANDVIEW	950.4	78.4
+4	PORT ANGELES	1,231.3	72.8
+3	QUINCY	1,105.9	71.2
+2	WEST VALLEY (SPOKANE	1,262.7	66.4
+1	WAHLUKE	864.9	64.7
	MOUNT BAKER	1,065.6	63.2
-1	NORTH MASON	1,275.1	58.7
-2	CHEHALIS	908.3	58.4
-3	ROCHESTER	1,255.1	56.8
-4	BLAINE	896.3	50.9
-5	WALLA WALLA	1,165.9	49.8
-6	PROSSER	1,195.8	48.5
-7	NORTH FRANKLIN	1,022.6	45.6
-8	ELLENSBURG	924.5	43.5
-9	DEER PARK	976.4	42.8
-10	EPHRATA	923.6	39.9

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 2016-17	SpEd Riders Per SpEd Bus 2016-17
+10	TOPPENISH	1,292.1	20.5
+9	GRANDVIEW	950.4	14.3
+8	WALLA WALLA	1,165.9	13.9
+7	QUINCY	1,105.9	11.9
+6	WEST VALLEY (SPOKANE	1,262.7	11.6
+5	ELLENSBURG	924.5	8.9
+4	NORTH FRANKLIN	1,022.6	8.6
+3	ORTING	1,167.3	8.3
+2	PROSSER	1,195.8	8.3
+1	LYNDEN	1,289.4	8.1
	CHEHALIS	908.3	8.0
-1	WAHLUKE	864.9	8.0
-2	BLAINE	896.3	7.8
-3	EPHRATA	923.6	7.7
-4	DEER PARK	976.4	7.2
-5	PORT ANGELES	1,231.3	6.6
-6	DIERINGER	990.0	6.3
-7	ROCHESTER	1,255.1	5.9
-8	NORTH MASON	1,275.1	4.9
-9	NOOKSACK	975.7	4.6
-10	MOUNT BAKER	1,065.6	4.2

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 2016-17	Cost Per Rider 2016-17
+10	LYNDEN	1,289.4	$ 827.64
+9	TOPPENISH	1,292.1	$ 835.41
+8	DIERINGER	990.0	$ 891.38
+7	NOOKSACK	975.7	$ 950.18
+6	GRANDVIEW	950.4	$ 955.54
+5	PROSSER	1,195.8	$ 1,017.61
+4	ROCHESTER	1,255.1	$ 1,056.15
+3	WEST VALLEY (SPOKANE	1,262.7	$ 1,063.05
+2	WAHLUKE	864.9	$ 1,077.70
+1	CHEHALIS	908.3	$ 1,081.27
	ORTING	1,167.3	$ 1,135.41
-1	DEER PARK	976.4	$ 1,170.84
-2	NORTH MASON	1,275.1	$ 1,180.73
-3	NORTH FRANKLIN	1,022.6	$ 1,198.28
-4	WALLA WALLA	1,165.9	$ 1,207.43
-5	QUINCY	1,105.9	$ 1,210.66
-6	PORT ANGELES	1,231.3	$ 1,233.57
-7	EPHRATA	923.6	$ 1,264.90
-8	BLAINE	896.3	$ 1,274.78
-9	MOUNT BAKER	1,065.6	$ 1,351.30
-10	ELLENSBURG	924.5	$ 1,652.10