



January 22, 2007

To: Board of Education

From: Art Rainwater

Subject: Estimated Elementary Class Size Reduction Analysis

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**Background:**

In 1996 MMSD entered into a 5-year Student Achievement Guarantee in Education (SAGE) contract with the Department of Public Instruction. Glendale Elementary School was the first to receive the grant to reduce class size in grades K-3 at a ratio of 1 teacher per 15 students. In subsequent years 21 additional schools received a contract. Currently, 13 SAGE schools receive reduced class size, 1:15 ratio, K-3 for the full day. In addition, 9 SAGE schools receive SAGE Block, which provides 1:15 ratio for literacy and math and is scheduled for 90 minutes of Literacy and 60 minutes of Math instruction daily.

Six additional elementary schools with reduced class size are funded from the MMSD operating budget which began in 2003-04 school year. These schools follow the SAGE Block design. See Appendix B for detail analysis.

Many formal and informal discussions have taken place over the past few years regarding class size in elementary schools. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty. The density of students from low income households varies among schools in the MMSD (see Appendix A).

The administration is providing an analysis of class sizes at the elementary level. Several of the options for consideration involve the restructuring of the current general K-3 class sizes which would result in more equitable distribution of resources. Supporting charts and research are attached to this analysis. The options provided are as follows:

Options for Consideration:

1. **Eliminate Reduced Class Sizes in K-3 and Move Contracts:**
  - a. Eliminate reduced class sizes in K-3 for schools below 50% poverty and move the Title IIA funds to supplement schools with more than 50% poverty.
  - b. Eliminate reduced class sizes in K-3 for schools below 40% poverty and move the Title IIA funds to supplement schools with more than 40% poverty.
  - c. Eliminate reduced class sizes in K-3 for schools below 30% poverty.
  
2. **Leave K-1 at 1:15 Ratio for 30% and Below:**
  - a. Leave K-1 at 1:15 Ratio and increase class sizes in grades 2-3 in schools supported through district funding below 30% poverty. This model moves the three contracts of Franklin, Randall, and Shorewood to support three non-SAGE schools (Nuestro Mundo, ORE, and Gompers) and releases the district of two SAGE contracts at Chavez and Muir.
  - b. Reduce K-1 class sizes in schools which are not currently receiving district or SAGE support (Elvehjem, Kennedy and Van Hise).

**3. Increase Class Sizes in Specials:**

- a. Increase class sizes in art, music, physical education, and Reach in K-1 (by combining a class and a half, maximum 23 students) for all schools currently receiving SAGE or reduced class size (this option assumes no changes in current class size will occur).
- b. Increase class sizes in art, music, physical education, and Reach in K-1 (by combining a class and a half, maximum 23 students) for all schools receiving SAGE above 30%. (only if option 1c is adopted).
- c. Increase class sizes in art, music, physical education, and Reach in 2-3 (by combining a class and a half, maximum 23 students) for those schools receiving SAGE in K-3 all day.

See Appendix A to understand each option.

**ANALYSIS OF CURRENT CLASS SIZES IN ELEMENTARY SCHOOLS-2006-2007**  
**(Information within this document is based on Third Friday Count 2006)**

**Option 1a- Eliminate Reduced Class Sizes in K-3 for schools below 50% poverty and move the Title IIA funds to supplement schools with more than 50% poverty.** Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ The net savings for this option is \$ **2,397,806** (\$**2,957,206** in district support [column O < 50%] + \$**995,600** in Title IIA [column H] - \$**1,752,000** SAGE Contracts [column D< 50%- 197,000 which is a SAGE contract transfer that goes to Nuestro Mundo] + Transfer Savings of \$**197,000**) thus eliminates smaller class sizes in 14 schools that currently have small class sizes (Thoreau, Lowell, Orchard Ridge, Gompers, Huegel, Stephens, Lapham, Marquette, Chavez, Muir, Shorewood, Franklin, Randall and Crestwood). The district will need to give up SAGE contracts at Thoreau [\$304,000], Lowell [\$166,000], Huegel [\$280,000], Stephens [\$232,000], Chavez [\$242,000], Muir [\$188,000], Shorewood [\$138,000] and Franklin/ Randall [\$154,000]+[\$48,000] for a total of \$**1,752,000**.
  - ◆ **The district will eliminate 7 (Franklin/Randall are paired) SAGE contracts.**
  - ◆ **The district will transfer 1 SAGE contract to Nuestro Mundo for an additional savings of \$197,000.**
  - ◆ **The district will eliminate locally funded class size reduction in 5 schools.**

**Disadvantages:**

- ◆ The current SAGE contracts support **95%** of low-income students in the MMSD. This option supports **66%** of the low-income students in the elementary schools. This option does not allow students from low-income households in these schools the same advantage of their peers in reduced class sizes in other schools in the district. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty. The density of students from low income households varies among schools in the MMSD (see Appendix A).
- ◆ This option does not allow students in Allied Drive, who attend Stephens Elementary School, Chavez, and Crestwood, smaller class sizes. However, the density of these schools varies (see Appendix A).
- ◆ This option does not allow the TEP students, who attend the paired schools of Lapham and Marquette, smaller class sizes.

**Option 1b – Eliminate Reduced Class Sizes in K-3 for schools with 40% or less poverty and move the SAGE and Title IIA funds to supplement schools with more than 40% poverty.** Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ The net savings for this option is \$**2,486,418.000** (\$**2,198,818** in district support [column O < 40%] + \$**805,600** in Title IIA [column H] - \$**420,000** SAGE contracts [a portion of column D] - the loss due to transfer of contracts [\$**98,000**]) thus eliminates smaller class sizes in 9 schools that currently have small class sizes (Lapham, Marquette, Stephens, Chavez, Muir, Shorewood, Franklin, Randall and Crestwood).
  - ◆ **The district will eliminate 2 SAGE contracts.**
  - ◆ **The district will transfer 3 SAGE contracts from Shorewood, Franklin/Randall and Chavez to Nuestro Mundo, ORE, and Gompers.**
  - ◆ **The district will eliminate locally funded class size reduction in 3 schools.**

**Based on 2006-2007 Enrollment Third Friday Count**

Name of School Moving Contract	Name of School Receiving Contract	Difference	Name of School Losing Contract	Name of School losing locally funded reduction
Shorewood, 69 students @ \$138,000	Nuestro Mundo, 97 students @ \$194,000	\$56,000	Stephens, 116 students @ \$232,000	Lapham
Franklin/Randall, 77 + 24 students @ \$202,000	ORE, 72 students @ \$144,000	-\$58,000	Muir, 94 students @ \$188,000	Marquette
Chavez, 121 students @ \$242,000	Gompers, 73 students @ \$146,000	-\$96,000		Crestwood
<b>Total \$582,000</b>	<b>Total \$484,000</b>	<b>Loss \$98,000</b>	<b>Loss \$420,000</b>	

**Disadvantages:**

- ◆ The current SAGE contracts support **95%** of low-income students in the MMSD. This option supports **77%** of the low-income students in the elementary schools. This option does not allow students from low-income households in these schools the same advantage of their peers in reduced class sizes across the district. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty. The density of students from low income households varies among schools in the MMSD (see Appendix A).
- ◆ This option will not allow students in Allied Drive, who attend Stephens Elementary School, Chavez, and Crestwood, smaller class sizes. However, the density of these schools varies (See Appendix A).
- ◆ This option will not allow the TEP students, who attend the paired schools of Lapham and Marquette, smaller class sizes.

**Option 1c – Eliminate Reduced Class Sizes in K-3 for schools at 30% or less poverty and move the SAGE and Title IIA funds to supplement schools with more than 30% poverty.** Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district **\$2,338,879 (\$1,933,279 district support [column O < 30%] + \$691,600 Title IIA [column H]) - \$138,000 [in loss of contracts below]-\$148,000 [in loss of transferring contracts]** thus eliminates smaller class sizes in 8 of the schools that currently have small class sizes (Chavez, Muir, Shorewood, Franklin, Randall, Marquette, Lapham, and Crestwood). The district will transfer 3 SAGE contracts described in the chart below for is a loss of **\$148,000**.
  - ◆ **The district will eliminate 1 SAGE contracts**
  - ◆ **The district will transfer 3 SAGE contracts from Chavez, Franklin/Randall and Muir to Nuestro Mundo, ORE, and Gompers.**
  - ◆ **The district will eliminate locally funded class size reduction in 3 schools.**
- ◆ This option will allow students in Allied Drive, who attend Stephens Elementary School, smaller class sizes.

**Based on 2006-2007 Enrollment Third Friday Count**

Name of School Moving Contract	Name of School Receiving Contract	Difference	Name of School Losing Contract	Name of School losing locally funded reduction
Chavez, 121 students @ \$242,000	Nuestro Mundo, 97 students @ \$194,000	-\$48,000	Shorewood, 69 students @ -\$138,000	Lapham
Franklin/Randall, 77+24 students @ \$202,000	ORE, 72 students @ \$144,000	-\$58,000		Marquette
Muir, 94 students @ \$188,000	Gompers, 73 students @ \$146,000	-\$42,000		Crestwood
<b>Total \$430,000</b>	<b>Total \$484,000</b>	<b>Loss \$148,000</b>	<b>Loss \$138,000</b>	

**Disadvantages:**

- ◆ The current SAGE contracts support **95%** of low-income students in the MMSD. This option supports **81%** of the low-income students in the elementary schools. This option does not allow disadvantaged students from low income households in these schools the same advantage of their peers in reduced class sizes across the district. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty. The density of students from low income households varies among schools in the MMSD (see Appendix A).
- ◆ This option will not allow some students in Allied Drive, who attend Chavez and Crestwood Elementary Schools, smaller class sizes.
- ◆ This option will not allow the TEP students, who attend the paired schools of Lapham and Marquette, smaller class sizes.
- ◆ This option requires MMSD to give up two SAGE contracts totaling \$308,000 per year.

**Option 2a – Eliminate Reduced Class Sizes in K-3 for schools at 30% or less poverty and move the SAGE and Title IIA funds to supplement schools with more than 30% poverty and leave K-1 at 1:15 ratio through district support, and increase class sizes in grades 2-3. This model moves the three contracts of Franklin, Muir, and Chavez to support three non-SAGE schools which are Nuestro Mundo, ORE, Gompers.**

- **This Option assumes a starting point of using Option 1c and then adding back reduced class size at district expense for K-1 in the 6 schools where class size increased (Marquette and Randall do not have K-1).**
- **Additional cost to the district for specials is also indicated in the chart below.**
- **The district will transfers 3 contracts of Franklin/Randall, Muir, and Chavez to Nuestro Mundo, ORE, and Gompers.**

Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district **\$203, 279**. The calculation is as follows: **\$2,338,879 [Savings from Option 1c]- \$1,732,800 [Cost to reduce K-1]-\$402,800 [additional specials cost for 6 schools]**.
- ◆ Kindergarten and first grade students who currently receive small class sizes will continue at 1:15 ratio. Research supports small class sizes.

**Disadvantages:**

- ◆ The current SAGE contracts support **95%** of low-income students in the MMSD. This option supports **88%** of the low-income students because it does not allow 2<sup>nd</sup> and 3<sup>rd</sup> grade disadvantaged students from low-income households in these schools the same advantage of their peers in reduced class sizes across the district. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty.
- ◆ This option will not allow students in Allied Drive, who attend Chavez and Crestwood, smaller class sizes.
- ◆ This option will not allow the TEP students, who attend the paired schools of Lapham and Marquette, smaller class sizes.

**Based on 2006-2007 Enrollment Third Friday Count**

Name of School Moving Contract	Name of School Receiving Contract	Difference	Name of School Losing Contract	Name of School losing locally funded reduction
Chavez, 121 students @ \$242,000	Nuestro Mundo, 97 students @ \$194,000	- \$48,000	Shorewood, 69 students @ -\$138,000	Lapham
Franklin/Randall, 77+24 students @ \$202,000	ORE, 72 students @ \$144,000	- \$58,000		Marquette
Muir, 94 students @ \$188,000	Gompers, 73 students @ \$146,000	- \$42,000		Crestwood
<b>Total \$430,000</b>	<b>Total \$484,000</b>	<b>Loss \$148,000</b>	<b>Loss \$138,000</b>	

**Muir School Formula for Specials:**

Example of Specials: 10.5 sections-7.1 sections =3.4 section.(4 sections)

4 sections adds .2FTE (art, music, reach)=.6 FTE

4 sections adds .3FTE (phy ed) = .3 FTE

Total =.9 FTE for Specials x \$76,000 = \$68,400

**Grades K-1 Cost Analysis Based on 2006-2007 Enrollment Third Friday Count**

% of Low Income (Sept 2006)	School	Grade K-1 Alloc at 15:1	District Expense for Grades K-1 at 15:1	Grade K-1 Alloc at 22:1	District Expense for Grades K-1 at 22:1	Specials Allocation for Art, Music, Reach and PE.	Cost to the District
29%	Marquette	0	0	0	0	0	0
27%	Muir	10.5	\$798,000	7.1	\$539,600	.9	\$68,400
28%	Lapham	10.8	\$820,800	7.4	\$562,400	.9	\$68,400
27%	Chavez	16.9	\$1,284,400	11.5	\$874,000	1.3	\$98,800
27%	Shorewood	9.3	\$706,800	6.3	\$478,800	.65	\$49,400
22%	Franklin	15.4	\$1,170,400	10.5	\$798,000	.9	\$68,400
22%	Randall	0.0	\$0	0.0	\$0	0	0
19%	Crestwood	8.4	\$638,400	5.7	\$433,200	.65	\$49,400
		FTE 71.3	\$5,418,800	FTE 48.5	\$3,686,000		
				<b>Cost</b>	<b>\$1,732,800</b>		<b>\$402,800</b>

**Option 2b: Reduce K-1 class sizes in schools which are not currently receiving district or SAGE support.**

**Advantages:**

- ◆ Kindergarten and first grades at these three schools will be at 1:15 ratio. Research supports small class sizes.
- ◆ This option will provide consistency across the district.

		Grade K-1 Alloc at 22:1	District Expense for Grades K-1 at 22:1	Grades K-1 Reduced to 15:1	District Expense for Grades K-1 at 15:1	Specials Allocation for Art, Music, Reach and PE.	Cost to the District
23%	Kennedy	8.5	\$646,000	12.6	\$957,600	.9	\$68,400
22%	Elvehjem	5.8	\$440,800	8.6	\$653,600	.7	\$53,200
21%	Van Hise	4.6	\$349,600	6.7	\$509,200	.5	\$38,000
<b>Total</b>		<b>18.9</b>	<b>\$1,436,400</b>	<b>27.9</b>	<b>\$2,120,400</b>	<b>2.1</b>	<b>\$159,600</b>

**Disadvantages:**

- ◆ This option will cost the district **\$ 843,600 (\$684,000 [27.9-18.9=9.0 FTE] +\$159,600 [2.1 FTE for specials])** in funds by increasing smaller class sizes for Kindergarten and 1<sup>st</sup> grade in the three schools that currently do not have small class sizes (Kennedy, Elvehjem and Van Hise).
- ◆ This option may be more difficult to schedule in some schools because of space issues.
- ◆ This option may require the purchase of additional equipment or materials to accommodate an increase in the number of sections.

**Option 3a – Increase class sizes in art, music, physical education, and Reach in K-1 (by combining a class and a half, maximum 23 students) for all current schools receiving SAGE or reduced class size.** Research in small class size is limited to achievement gains in literacy and math (see attached article, “Reducing Class Size”). This option assumes that all schools will stay at their current class sizes and it equalizes class sizes in specials K-5. However, because this option requires multiples of 3 to design this structure, schools may not be able to implement this option in its purest state. Some classes may need to go to specials at a 1:15 ratio.

Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district **\$1,146,840 (15.09 FTE x \$76,000)** by having kindergartners and first graders attend art, music, physical education, and Reach in classes of 22-23 instead of in classes of 15.
- ◆ This option will provide more available space in buildings by reducing the amount of time classrooms would be needed for “specials.” This could be especially important in schools that use the gym as a cafeteria.
- ◆ This option maintains the amount of Art, Music, Reach and Physical Education all elementary students currently receive.

**Disadvantages:**

- ◆ This option will require students to attend art, music, physical education, and Reach with students other than those in their homerooms by adding 7-8 students to each section in all “specials” classes.
- ◆ This option may be more difficult to schedule in some schools than the current model.

**Option 3b - Increase class sizes in art, music, physical education, and Reach in K-1 (by combining a class and a half, maximum 23 students) for all schools receiving SAGE above 30%. (Only if option 1c is adopted).** Research in small class size is limited to achievement gains in literacy and math (see attached article, “Reducing Class Size”). This option assumes that all schools will stay at their current class sizes and it equalizes class sizes in specials K-5. However, because this option requires multiples of 3 to design this structure, schools may not be able to implement this option in its purest state. Some classes may need to go to specials at a 1:15 ratio.

Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district **\$813,200 (10.07 FTE x \$76,000)** by having kindergartners and first graders attend art, music, physical education, and Reach in classes of 22-23 instead of in classes of 15.
- ◆ This option will provide more available space in buildings by reducing the amount of time classrooms would be needed for “specials.” This could be especially important in schools that use the gym as a cafeteria.
- ◆ This option maintains the amount of Art, Music, Reach and Physical Education all elementary students currently receive.

**Disadvantages:**

- ◆ This option will require students to attend art, music, physical education, and Reach with students other than those in their homerooms by adding 7-8 students to each section in all “specials” classes.
- ◆ This option may be more difficult to schedule in some schools than the current model.

**Option 3c – Increase class sizes in art, music, physical education, and Reach in grades 2-3 (by combining a class and a half, maximum 23 students) for those schools receiving SAGE in K-3 all day (Glendale, Mendota, Midvale, Lake View, Lindbergh, Emerson, Allis, Falk, Hawthorne, Leopold, Schenk and Lowell).** Research in small class size is limited to achievement gains in literacy and math (See article “Reducing Class Size” attached). This option assumes that all schools will stay at their current class sizes and it equalizes class sizes in specials K-5. However, because this option requires multiples of 3 to design this structure, schools may not be able to implement this option in its purest state. Some classes may need to go to specials at a 1:15 ratio.

Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district **\$420,280 (5.53 FTE x \$76,000)** by having 2<sup>nd</sup> and 3<sup>rd</sup> graders attend art, music, physical education, and Reach in classes of 22-23 instead of in classes of 15.
- ◆ This option will provide more available space in buildings by reducing the amount of time classrooms would be needed for “specials.” This could be especially important in schools that use the gym as a cafeteria.

**Disadvantages:**

- ◆ This option will require students to attend art, music, physical education, and Reach with students other than those in their homerooms by adding 7-8 students to each section in all “specials” classes.
- ◆ This option may be more difficult to schedule in some schools than the current model.

**Option 1d – Eliminate only Reduced Class Sizes funded by the District, and move SAGE contracts to the schools with the highest percentage of low income students. This option would eliminate no SAGE contracts.** Advantages and disadvantages for this option are listed below:

**Advantages:**

- ◆ This option will save the district \$. **\$2,114,348 district (\$1,933,279 - \$50,667-\$323,864= \$1,558,748) district support [portion of column O < 30%] + \$653,600 Title IIA [column H-\$38,000] - \$46,000 [in loss from transfer of contracts below]** thus eliminates smaller class sizes in 6 of the schools that currently have small class sizes (Chavez, Shorewood, Franklin, Randall, Lapham, and Crestwood). The district will transfer 4 SAGE contracts described in the chart below for a loss of **\$98,000**.
  - ◆ **The district will eliminate 0 SAGE contracts**
  - ◆ **The district will transfer 3 SAGE contracts from Chavez, Franklin/Randall and Shorewood to Nuestro Mundo, ORE, and Gompers.**
  - ◆ **The district will eliminate locally funded class size reduction in 3 schools, Lapham, Marquette and Crestwood.**
- ◆ This option will allow students in Allied Drive, who attend Stephens Elementary School, smaller class sizes.

**Based on 2006-2007 Enrollment Third Friday Count**

Name of School Moving Contract	Name of School Receiving Contract	Difference	Name of School Losing SAGE contract	Name of School losing locally funded RCS
Chavez, 121 students @ \$242,000	Nuestro Mundo, 97 students @ \$194,000	- \$48,000	Chavez	Crestwood
Franklin/Randall 24+77 students @\$202,000	ORE, 72 students @ \$144,000	\$ -58,000	Franklin/Randall	Lapham/Marquette
Shorewood, 69 students @ \$138,000	Gompers, 73 students @ \$146,000	\$8,000	Shorewood	
<b>Total \$582,000</b>	<b>Total \$484,000</b>	<b>Loss \$98,000</b>		

**Disadvantages:**

- ◆ The current SAGE contracts support **95%** of low-income students in the MMSD. This option supports **82%** of the low-income students in the elementary schools. This option does not allow disadvantaged students from low income households in these schools the same advantage of their peers in reduced class sizes across the district. Research shows that a smaller class size benefits all children, but it is of significant benefit to the achievement of children of poverty. The density of students from low income households varies among schools in the MMSD (see Appendix A).
- ◆ Muir and Marquette serve the same percentage of low-income students (29%). This option leaves a SAGE contract at Muir and does not reduce class size at Lapham/Marquette. However, Lapham/Marquette combined low-income percentage is 28.5%, which is lower than Muir.
- ◆ This option will not allow some students in Allied Drive, who attend Chavez and Crestwood Elementary Schools, smaller class sizes.

**CONSIDERATIONS:**

1. Muir and Marquette serve the same percentage of low-income students (29%). This option leaves a SAGE contract at Muir and does not reduce class size through current district support at Lapham/Marquette. However, Lapham/Marquette combined low-income percentage is 28.5%, which is lower than Muir.
2. The proposed boundary changes once Linden Park is built increases Crestwood’s low income students from 19% to 39% in the 2007-08 school year. A contract may need to be transferred to Crestwood in the future.