08/20/2013

SENATE FINANCE EDUCATION SUBCOMMITTEE

<TARGET><BILL></BILL><SUBJECT>08-20-2013 SENATE FINANCE EDUCATION
SUBCOMMITTEE</SUBJECT><COMM>SFIN28</COMM></TARGET>

ALASKA STATE LEGISLATURE

Senator Mike Dunleavy, Chair
Senator Anna Fairclough, Member
Senator Berta Gardner, Member

Senator Pete Kelly, Member
Senator Gary Stevens, Member

Senate Finance Education Subcommittee

Agenda for August 20 Meeting

The times listed are estimates and may change during the meeting.

Tuesday, August 20, 2013

8:00 Senator Dunleavy, Chair
Opening Remarks

8:15 David Teal, Director, Legislative Finance
Past, Present and Future Cost of K-12 Education

9:00 Senator Mike Dunleavy
Explanation of the Foundation Formula

David Teal, Director, Legislative Finance
Comparison of Cost-Drivers within the Foundation Formula

10:15 Break

10:30 Elizabeth Nudelman, Department of Education, Division of School Finance, Director
Past, Present and Future Cost of Pupil Transportation

11:30 Committee Recap Discussion

12:00 Lunch

1:30 David Teal, Director, Legislative Finance
History of PERS and TRS Unfunded Liability

Kris Erchinger, Alaska Retirement Management (ARM) Board, Member
ARM Board Activities and the PERS and TRS Unfunded Liability

ALASKA STATE LEGISLATURE

Senator Mike Dunleavy, Chair
Senator Anna Fairclough, Member
Senator Berta Gardner, Member

Senator Pete Kelly, Member
Senator Gary Stevens, Member

Senate Finance Education Subcommittee

Agenda for August 20 Meeting

The times listed are estimates and may change during the meeting.

2:30 Elizabeth Nudelman, Department of Education, Division of School Finance, Director
Past, Present and Future Cost of School Construction

3:00 Break

3:15 John Anderson, Eric Havelock, Cary Bolling - Alaska Housing and Finance Corp.
Energy Use in School Districts

4:15 Public Comments on Today's Discussion Topics

4:45 Committee Recap Discussion

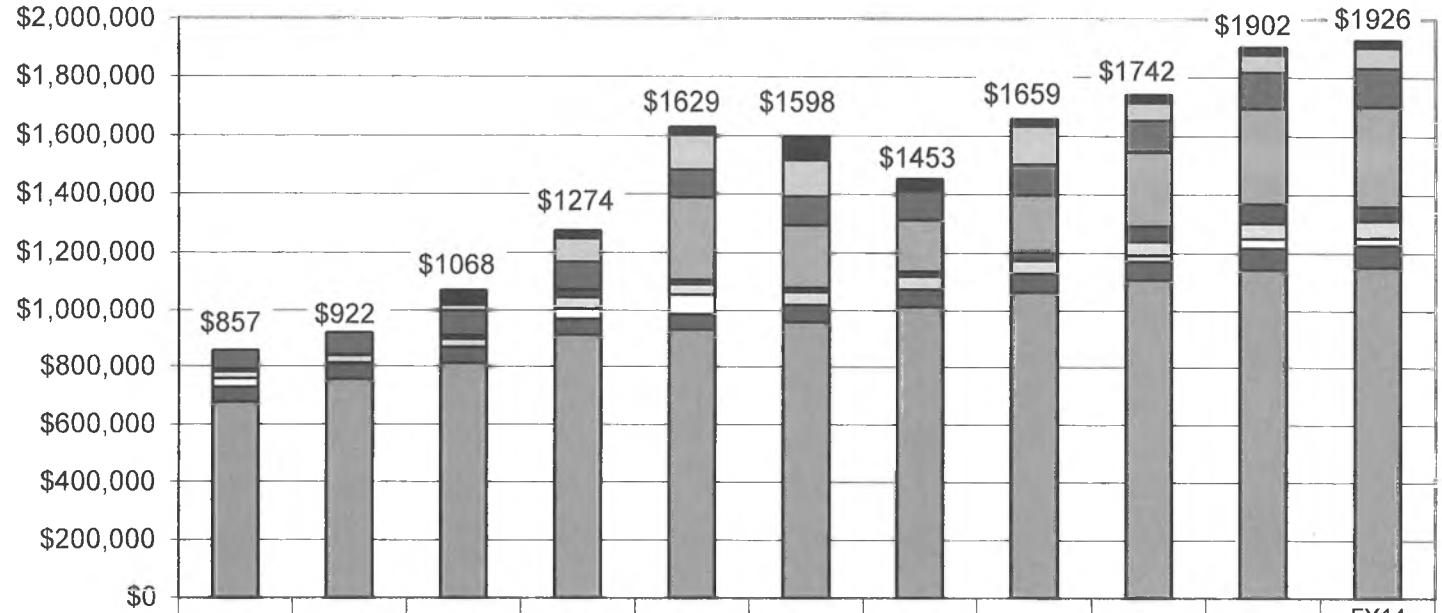
Funding Public Education in Alaska

Prepared for the

K-12 Task Force

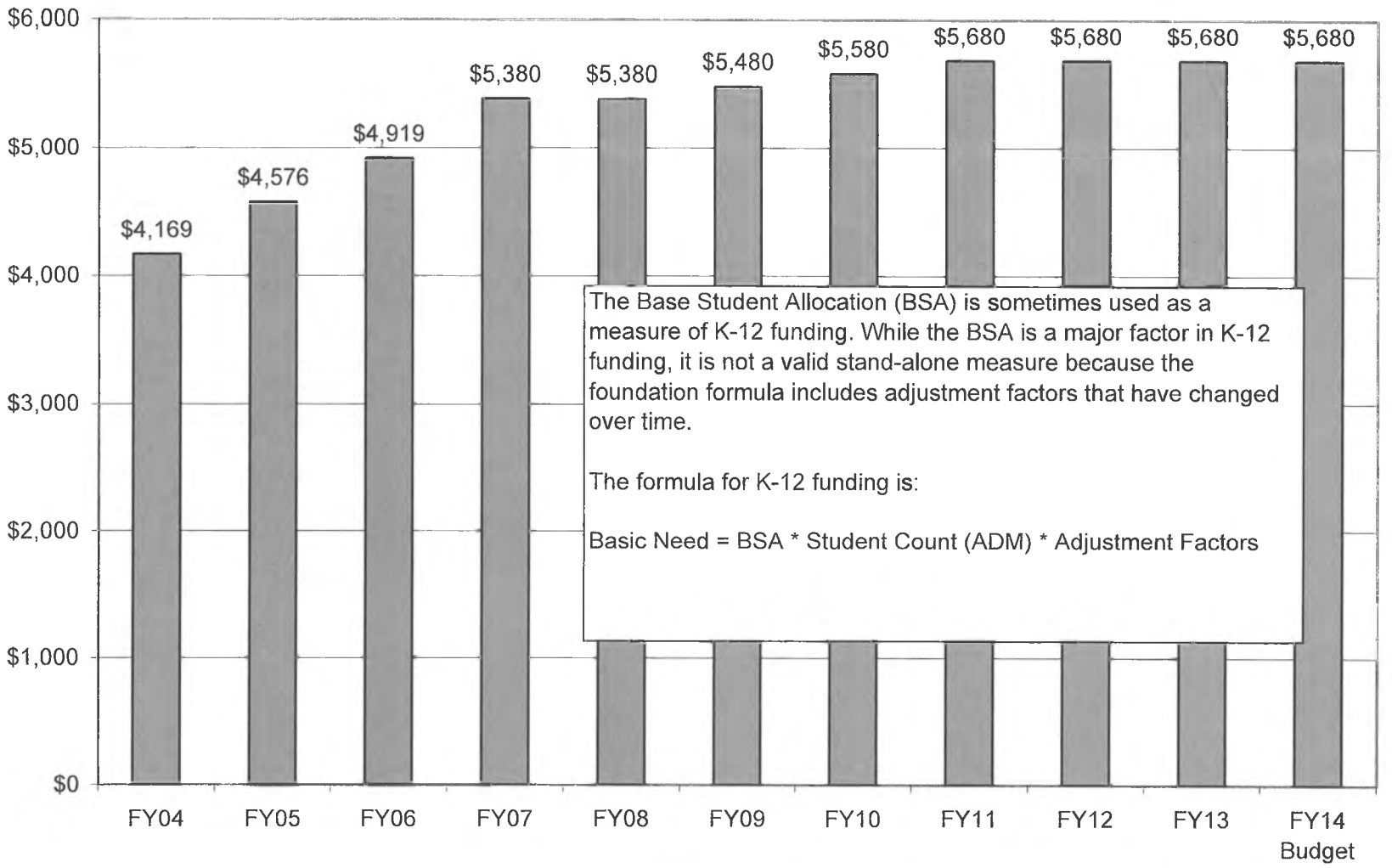
By
David Teal
Director, Legislative Finance Division
August 2013

General Fund Appropriations for K-12 Education



	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
School Major Maintenance	-	-	51,322	25,829	28,371	82,885	42,444	26,318	25,855	23,974	22,991
School Construction	-	-	20,978	83,601	118,888	125,110	-	129,583	61,911	60,974	71,181
Debt Service Reimbursement	66,024	81,870	86,464	93,935	94,997	97,021	100,045	106,259	108,146	120,386	128,263
Total School District PERS & TRS	-	-	-	-	282,279	216,400	175,720	200,635	253,437	329,569	343,532
Capital Budget Grants to Districts	9,178	3,871	12,798	26,933	14,288	14,351	17,627	23,399	52,322	64,495	48,484
DEED Operating Expenses for K-12	23,620	24,433	28,911	41,372	36,905	44,665	43,452	45,593	50,013	52,989	59,455
Total Distributed as One-time Items	29,202	2,063	1,454	35,000	69,101	-	-	-	20,000	33,103	25,000
Pupil Transportation Funding	53,145	53,557	54,969	54,707	53,250	58,517	61,150	63,839	62,666	73,796	75,639
Foundation Program Funding	675,503	756,061	811,554	912,608	931,151	959,076	1,012,509	1,063,183	1,107,190	1,142,971	1,151,248

C1: Statutory Base Student Allocation (BSA)



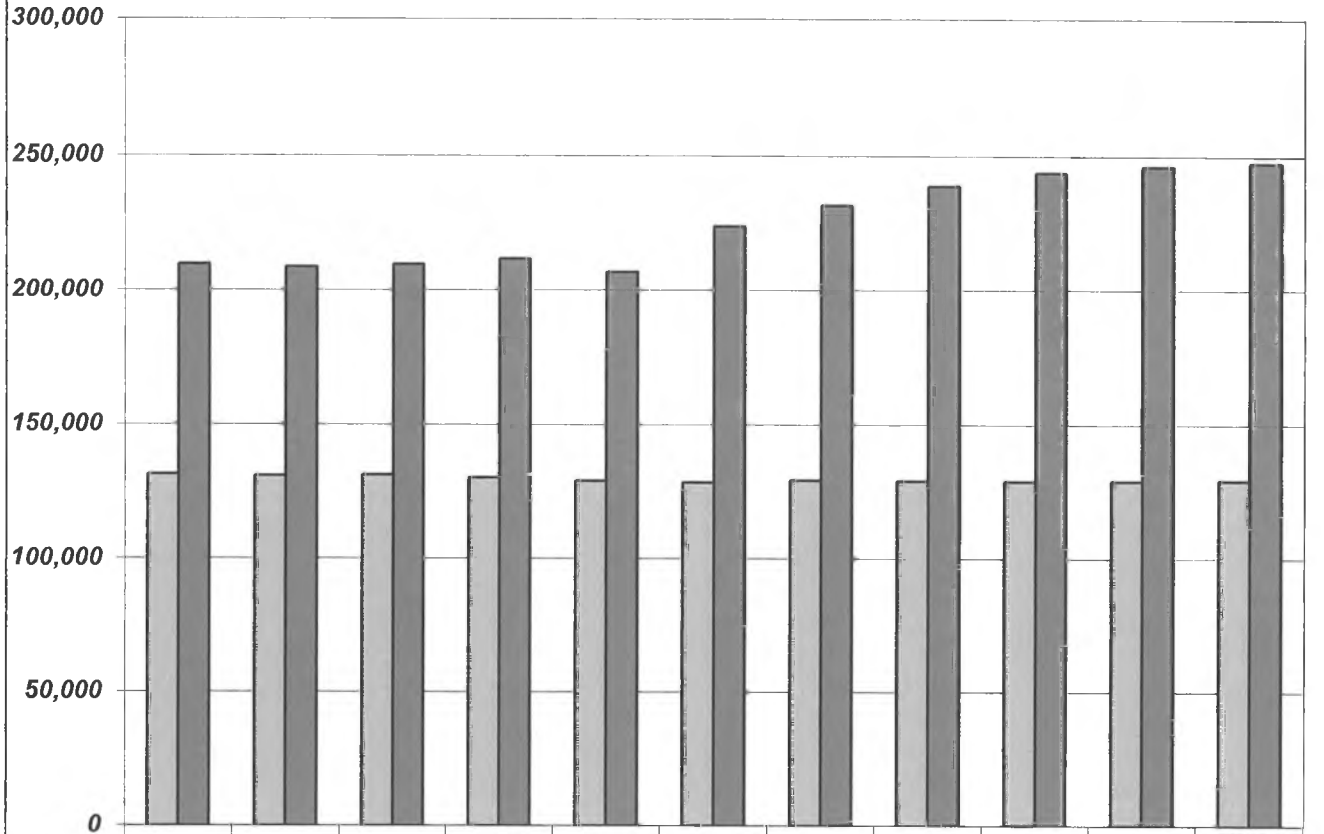
C2: Converting *Head Count* to *Students that are Funded*

Adjustment factors--for school size, geographic location, special and intensive needs students, vocational education and others--have changed over time, especially since FY08.

Because funding depends on adjusted ADM (AADM), the conversion from ADM to AADM is a critical part of the funding formula.

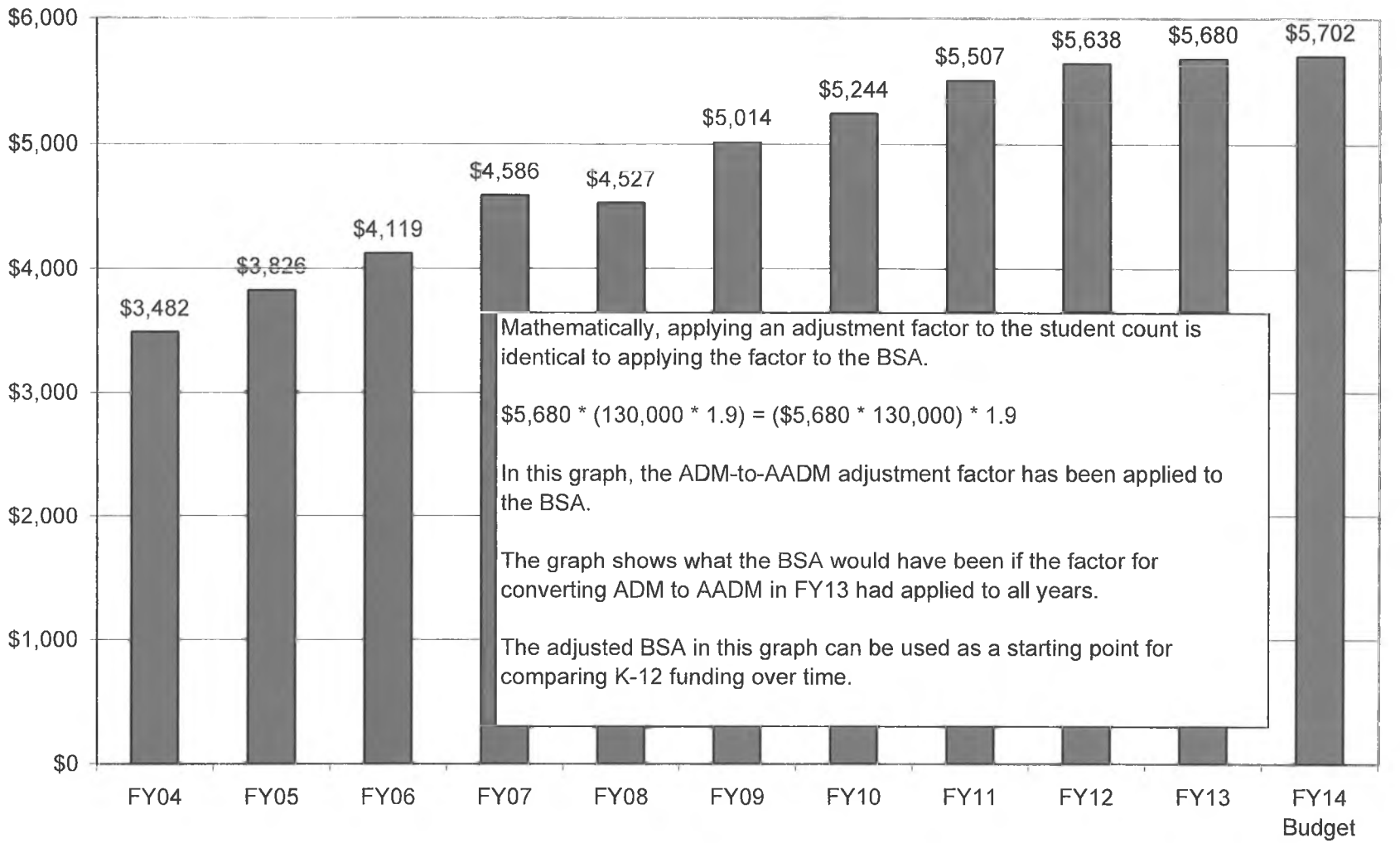
As shown in the graph, the student count (for funding purposes) was 1.6 times the head count in FY04. In FY14, the student count (for funding purposes) was 1.9 times the head count.

Note that ADM has remained at roughly 130,000 over time, but that AADM has increased from 210,000 to 247,000. At any given BSA, a higher AADM means more money

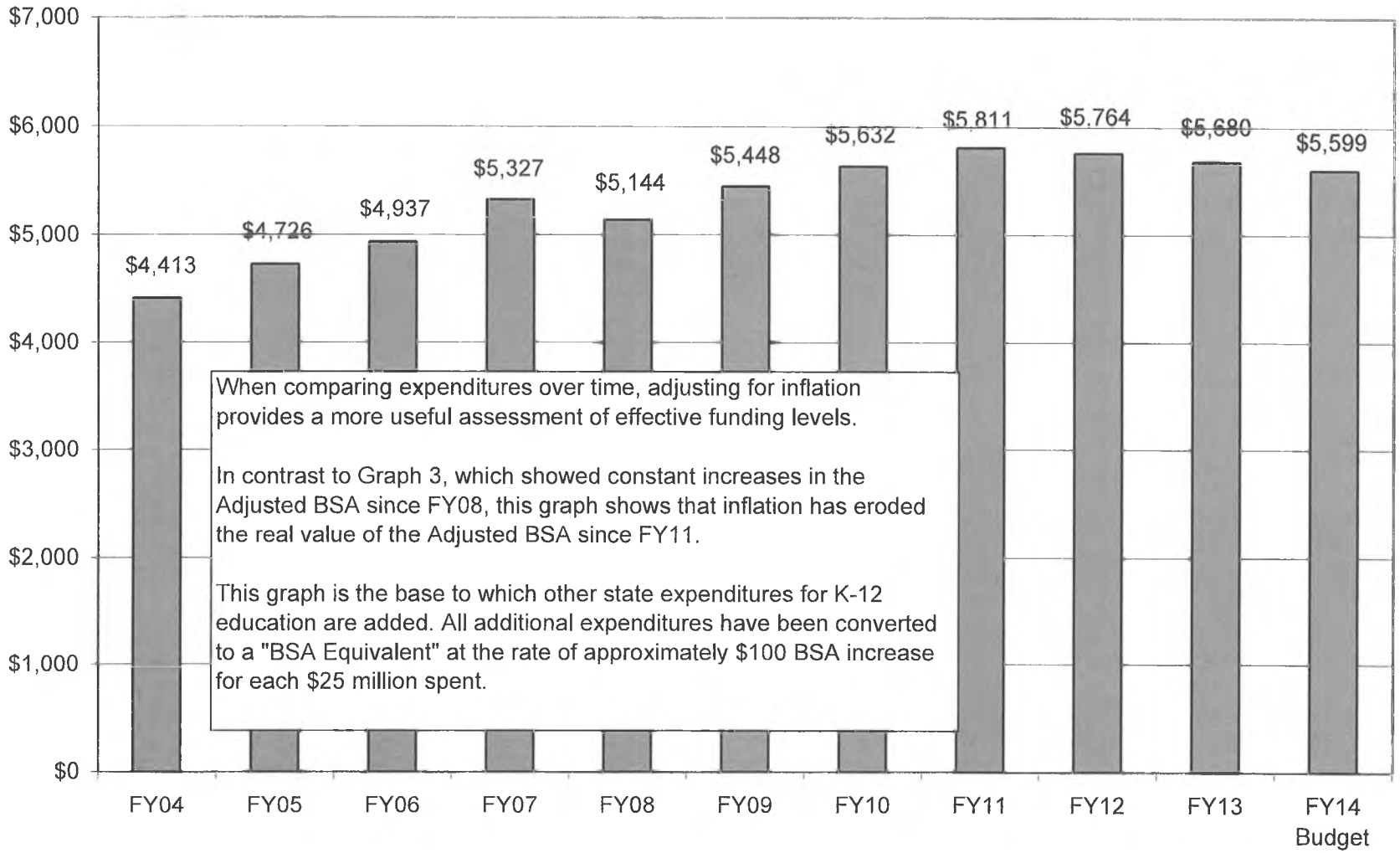


	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
ADM (student count)	131,623	130,928	131,263	130,164	128,975	128,381	129,229	129,047	128,886	129,021	129,323
AADM (the ADM times various formula factors)	209,571	208,681	209,520	211,523	206,888	223,912	231,517	238,494	243,874	245,944	247,472

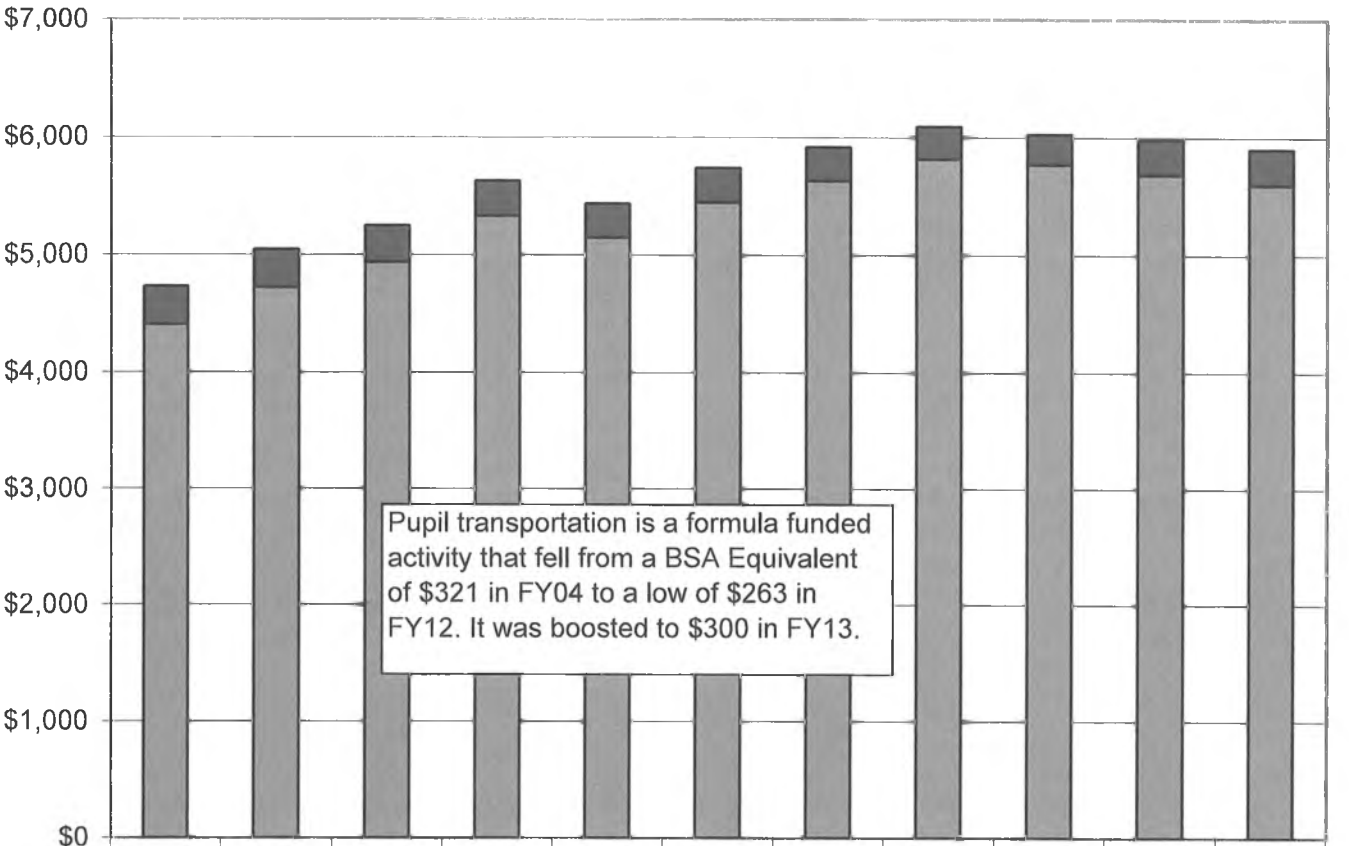
C3: BSA Adjusted for Factor Changes



C4: Adjusted BSA in FY13 Dollars



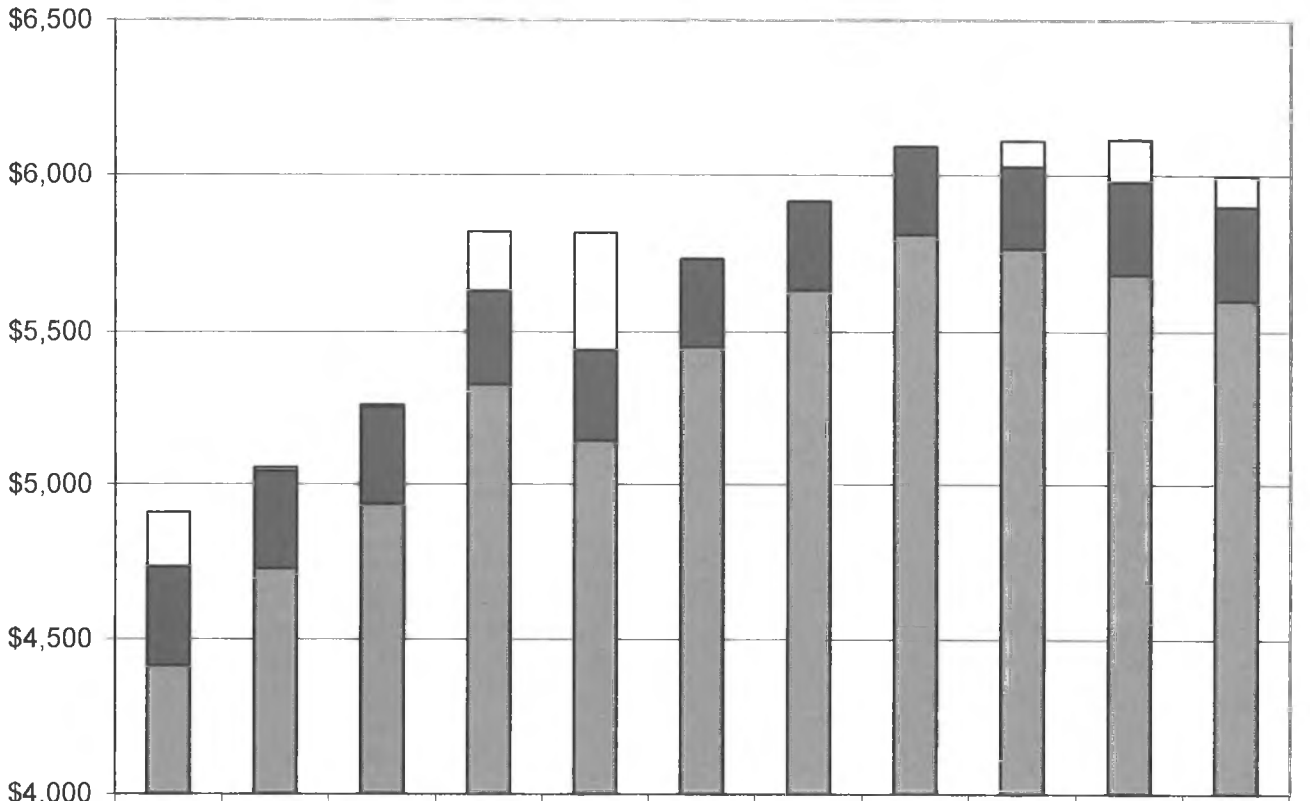
C5: K-12 Expenditures



	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

C6: K-12 Expenditures

One-time funding (distributed according to the foundation formula) has often been used as an alternative to formula increases.



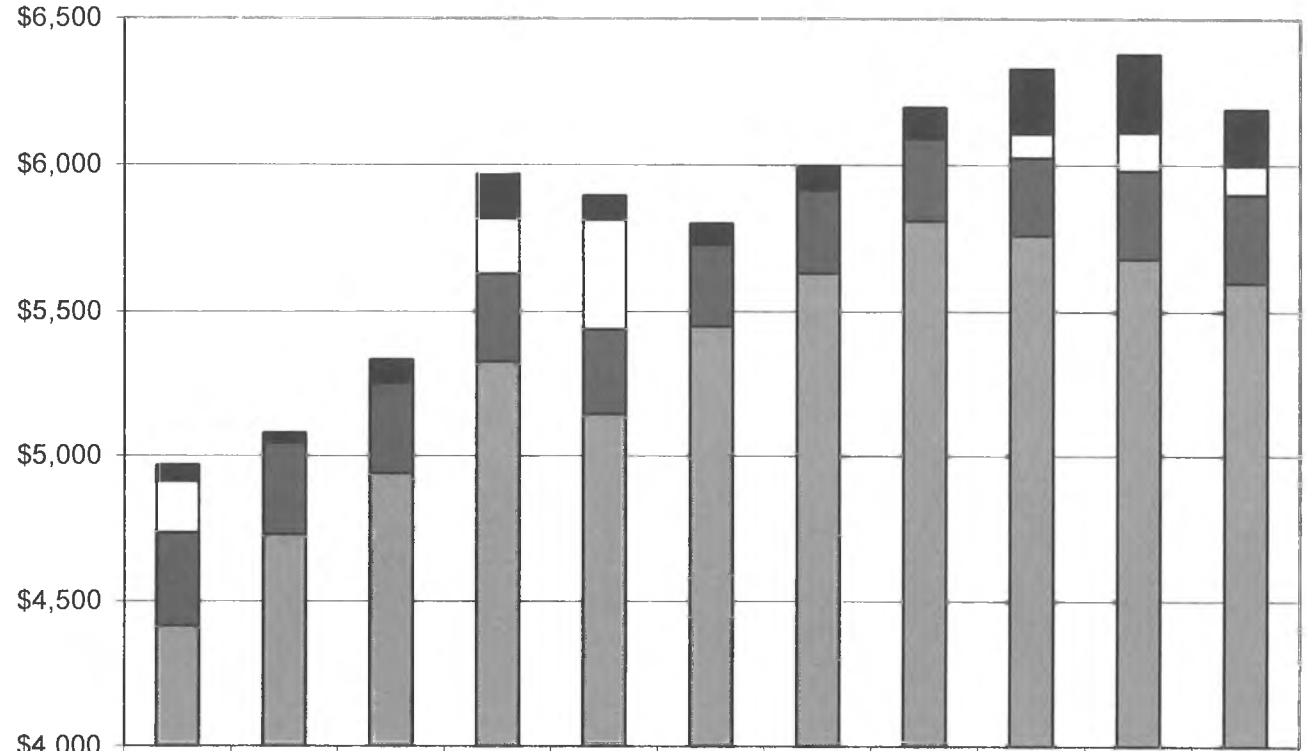
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
Total Distributed as One-time Items	177	12	8	192	379	-	-	-	84	135	99
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

C7: K-12 Expenditures

Capital Budget grants are grants for items that would normally be expected to be paid for with formula funds.

They have increased substantially in recent years, as they typically do when other funding is relatively flat.

The FY14 budget contains $21 million for capital projects associated with student safety and security enhancements or for fixed costs and energy relief to smaller schools.

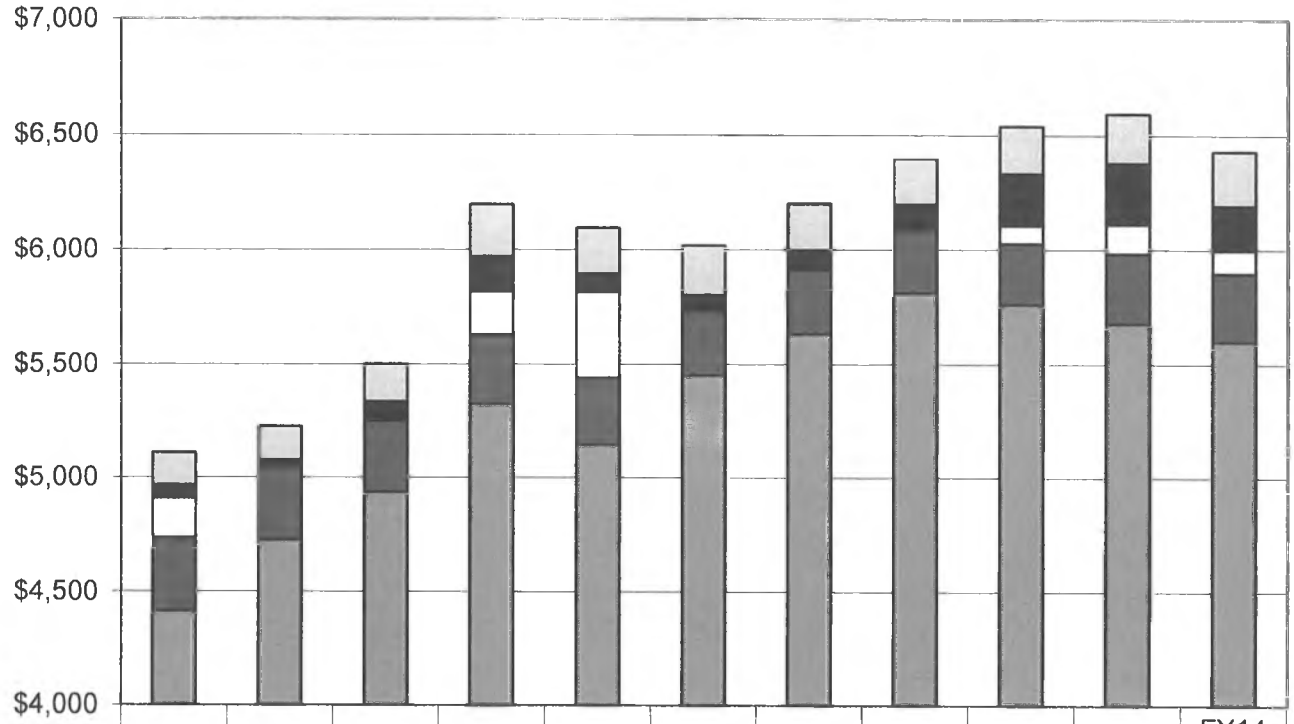


	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
Capital Budget Grants to Districts	55	23	73	148	78	70	82	104	219	262	192
Total Distributed as One-time Items	177	12	8	192	379	-	-	-	84	135	99
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

C8: K-12 Expenditures

DEED operating expenses for K-12 include state funds that are awarded as grants to school districts.

This source of funding for school districts is expected to increase because targeted grants provide a way to achieve specific goals at a lower cost and with greater certainty than increasing the BSA. Money allocated via formula cannot be targeted to achieve specific objectives.

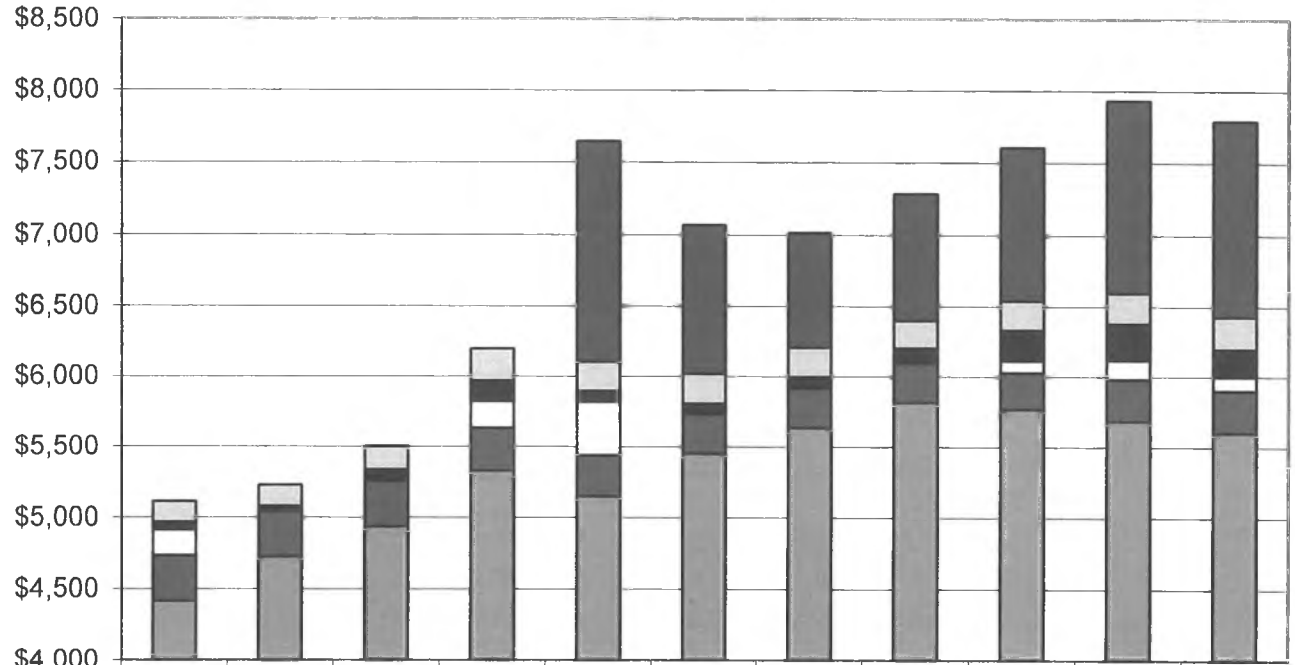


	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
DEED Operating Expenses for K-12	143	145	165	227	203	217	202	202	210	215	236
Capital Budget Grants to Districts	55	23	73	148	78	70	82	104	219	262	192
Total Distributed as One-time Items	177	12	8	192	379	-	-	-	84	135	99
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

C9: K-12 Expenditures

The state deposits money in retirement trust accounts on behalf of school districts.

Although the money does not benefit employees directly and cannot be used for other purposes, retirement assistance is a cost of providing K-12 education.

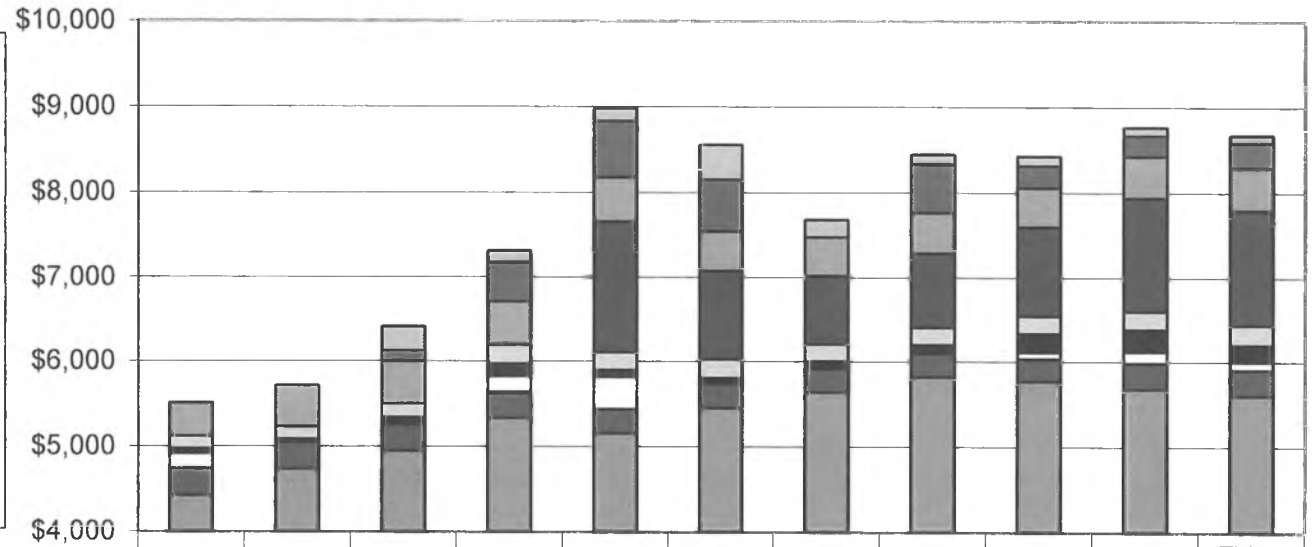


	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
Total School District PERS & TRS	-	-	-	-	1,550	1,050	815	888	1,062	1,340	1,363
DEED Operating Expenses for K-12	143	145	165	227	203	217	202	202	210	215	236
Capital Budget Grants to Districts	55	23	73	148	78	70	82	104	219	262	192
Total Distributed as One-time Items	177	12	8	192	379	-	-	-	84	135	99
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

C10: K-12 Expenditures

The state pays a large portion of school construction and major maintenance costs.

Although some argue that capital costs do not appear "in the classroom", the costs are incurred by the state as a necessary part of providing K-12 education.



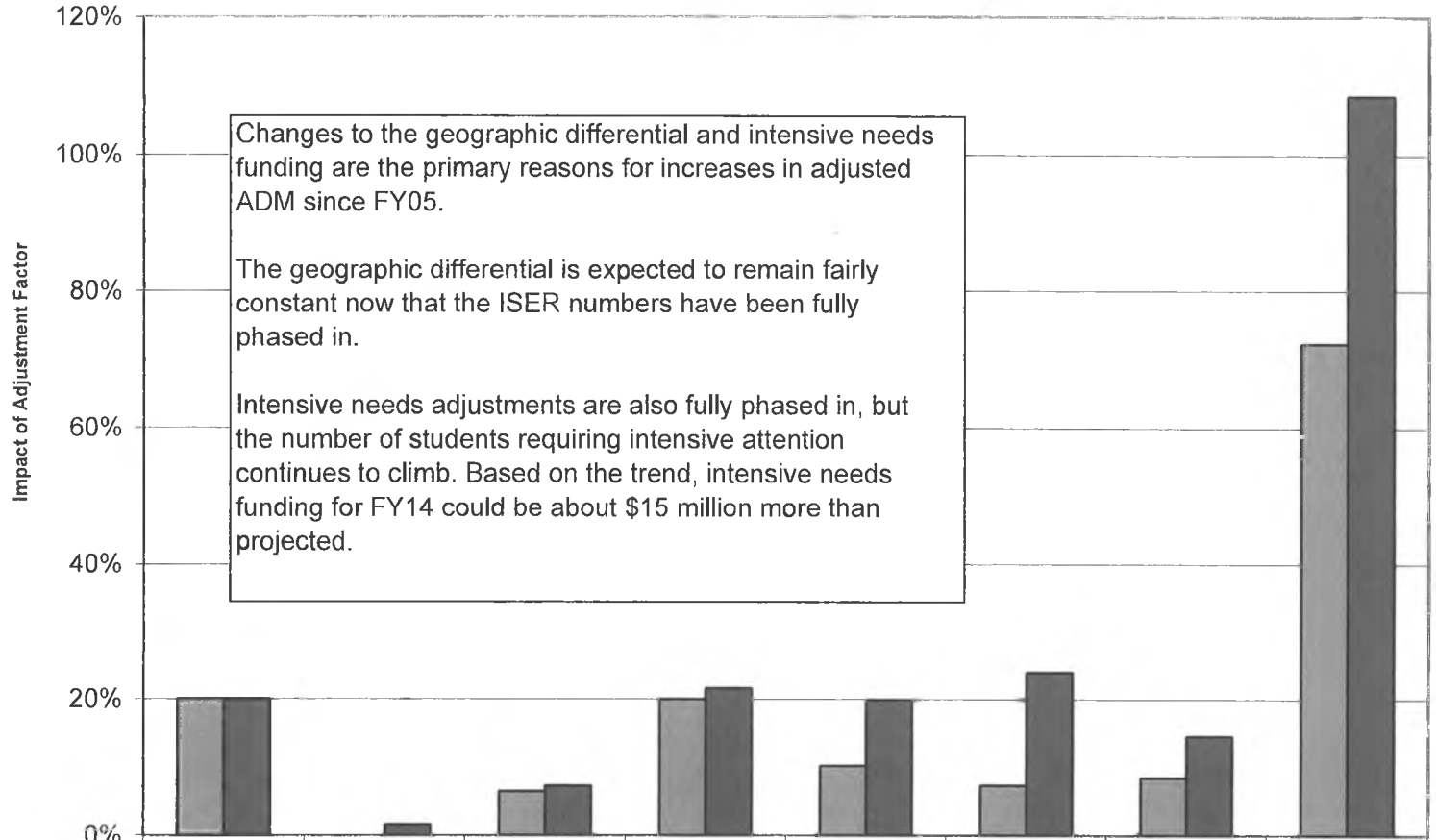
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14 Budget
School Major Maintenance	-	-	294	142	156	402	197	116	108	97	91
School Construction	-	-	120	459	653	607	-	573	260	248	282
Debt Service Reimbursement	399	485	495	516	522	471	464	470	453	489	509
Total School District PERS & TRS	-	-	-	-	1,550	1,050	815	888	1,062	1,340	1,363
DEED Operating Expenses for K-12	143	145	165	227	203	217	202	202	210	215	236
Capital Budget Grants to Districts	55	23	73	148	78	70	82	104	219	262	192
Total Distributed as One-time Items	177	12	8	192	379	-	-	-	84	135	99
Pupil Transportation Funding	321	317	314	300	292	284	284	282	263	300	300
BSA Adjusted for Factor Changes	4,413	4,726	4,937	5,327	5,144	5,448	5,632	5,811	5,764	5,680	5,599

State Aid = Basic Need - Required Local Effort - 90% of Deductible Federal Impact Aid							
	FY2000		FY2014		FY2000 to FY2014		
Basic Need = ADM * Adjustments * Base Student Allocation							
ADM	123,505.4		118,673.2		(4,832.22)	-3.9%	
Correspondence ADM	8,191.1		10,649.6		2,458.54	30.0%	
Total ADM	131,696.5		129,322.8		(2,373.68)	-1.8%	
AADM	208,753.6		247,472.4		38,718.74	18.5%	
Base Student Allocation	$ 3,940		$ 5,680		1,740.00	44.2%	
Basic Need	**$ 822,489,302**		**$ 1,405,643,062**		**$ 583,153,759**	70.9%	
Required Local Effort = max((Property Value * mil rate) or 45% of District Basic Need)							
Required Local Effort	**$ 144,225,248**		**$ 221,558,397**		**$ 77,333,149**	53.6%	
Federal Impact Aid							
Total Federal Aid	$ 90,053,713		$ 123,047,889		32,994,176.00	36.6%	
Total Eligible Aid	$ 75,065,595		$ 98,797,886		23,732,291.00	31.6%	
Deductible Aid	$ 55,275,646		$ 74,598,589		19,322,943.33	35.0%	
90% of Deductible Fed Impact Aid	**$ 49,748,081**		**$ 67,138,730**		**$ 17,390,649**	35.0%	
State Aid							
Basic Need	$ 822,489,302		$ 1,405,643,062		583,153,759.40	70.9%	
less Required Local Effort	$ (144,225,248)		$ (221,558,397)		(77,333,149.00)	53.6%	
less 90% of Deductible Federal Impact Aid	$ (49,748,081)		$ (67,138,730)		(17,390,649.00)	35.0%	
Equals Base State Aid	$ 628,515,973		$ 1,116,945,935		488,429,961.40	77.7%	
plus Funding Floor	$ 23,991,825		$ 106,062		(23,885,763.00)	-99.6%	
plus Quality Schools	$ 3,340,059		$ 3,959,558		619,499.00	18.5%	
Total State Aid	**$ 655,847,857**		**$ 1,121,011,555**		**465,163,697.40**	**70.9%**	
Local Contributions							
Required Local Effort	$ 144,225,248		$ 221,558,397	334,427,769	77,333,149.00	53.6%	
Additional Local Contributions	$ 124,102,245		$ 232,058,648		107,956,403.00	87.0%	
Total Local Contributions	**$ 268,327,493**		**$ 453,617,045**		**185,289,552.00**	**69.1%**	
Allowable Additional Local Contributions	$ 173,612,798	71%	$ 296,255,809	78%	122,643,011.00	70.6%	
Money to School Districts (Partial)							
State	$ 655,847,857	65%	$ 1,121,011,555	66%	465,163,697.40	70.9%	
Local	$ 268,327,493	26%	$ 453,617,045	27%	185,289,552.00	69.1%	
Federal	$ 90,053,713	9%	$ 123,047,889	7%	32,994,176.00	36.6%	
Total	**$ 1,014,229,063**	**100%**	**$ 1,697,676,489**	**100%**	**683,447,425.40**	**67.4%**	
per ADM							
ADM	131,696.5		129,322.8		(2,373.68)	-1.8%	
State	$ 4,980		$ 8,668		$ 3,688	74.1%	
Local	$ 2,037		$ 3,508		$ 1,470	72.2%	
Federal	$ 684		$ 951		$ 268	39.1%	
Total	**$ 7,701**		**$ 13,127**		**$ 5,426**	**70.5%**	

FY14 [illegible]tions--Converting Student Head Count to Adjusted ADM

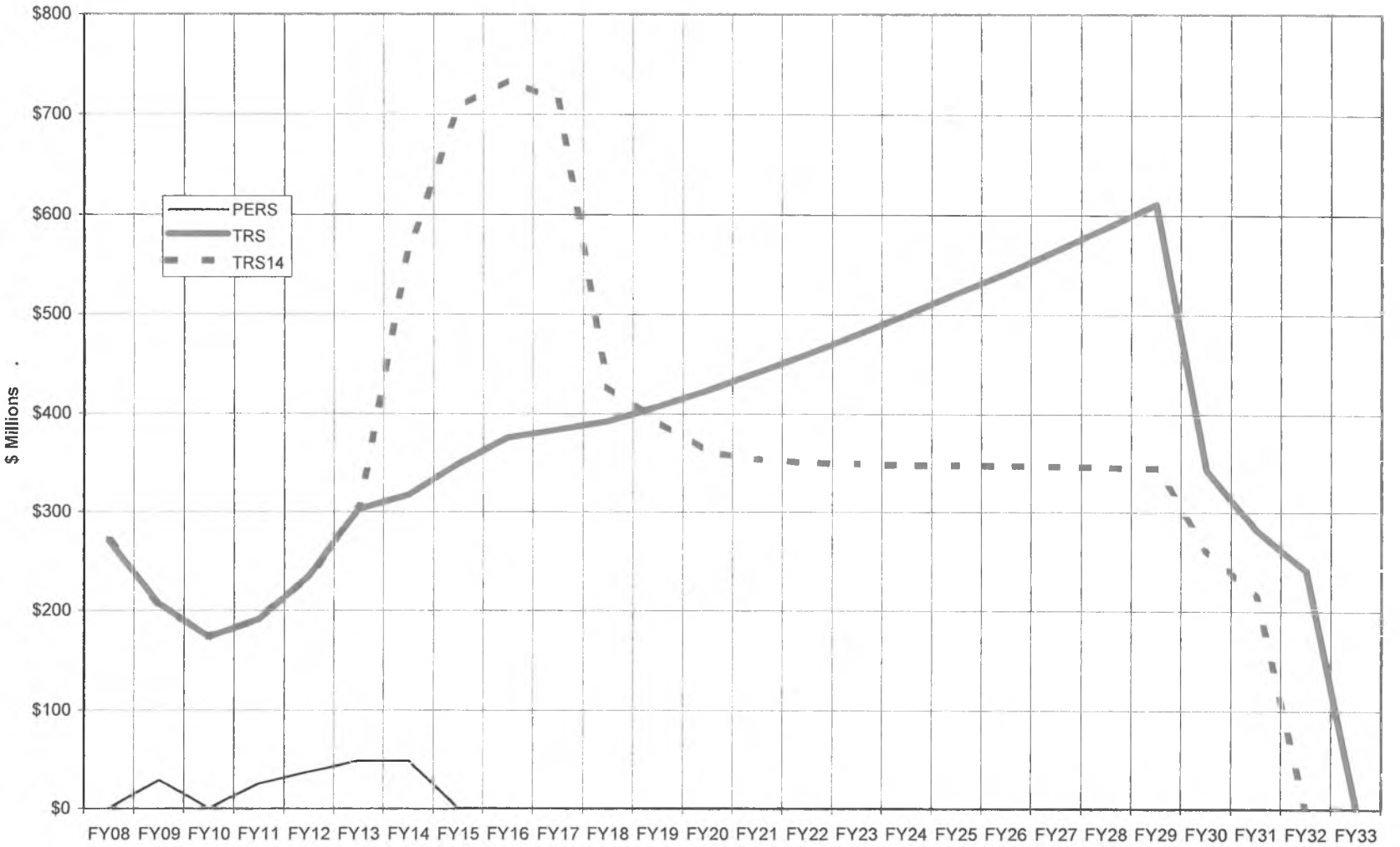
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
School District	ADM	Correspond. ADM	Total ADM (col 2+col 3)	ADM Adjusted for School Size (excluding hold-harmless)	ADM Adjusted for School Size (after hold-harmless)	Geographic Differential	Adjusted ADM	Adjusted ADM after Special Needs Factor (120 %)	Adjusted ADM after CTE Factor (101.5 %)	Intensive Needs Students	Adjustment for Intensive Needs (13 * Head Count)	Adjusted ADM after Intensive Special Education	Adjustment for District Corresp. (8 * Head Count)	Adjusted ADM	AADM / ADM (col 15 / col 4)	AADM / ADM (excluding correspondence) (col 13 / col 2)	Effective BSA ($5,680 * col 17)
Alaska Gateway	317.0	37.0	354.0	575.2	604.4	1.6	963.5	1,156.1	1,173.5	13.0	169.0	1,342.5	29.6	1,372.1	3.9	4.2	$ 24,055
Aleutian Region	26.5	-	26.5	79.2	79.2	1.9	153.6	184.3	187.0	3.0	39.0	226.0	-	226.0	8.5	8.5	$ 48,449
Aleutians East	222.0	3.0	225.0	394.0	419.6	2.0	835.5	1,002.6	1,017.6	2.0	26.0	1,043.6	2.4	1,046.0	4.6	4.7	$ 26,701
Anchorage	48,027.0	858.0	48,885.0	52,772.5	52,772.5	1.0	52,772.5	63,327.0	64,276.9	789.0	10,257.0	74,533.9	686.4	75,220.3	1.5	1.6	$ 8,815
Annette Island	276.0	-	276.0	405.2	406.2	1.3	543.5	652.3	662.0	3.0	39.0	701.0	-	701.0	2.5	2.5	$ 14,427
Bering Strait	1,596.0	-	1,596.0	2,579.1	2,579.1	2.0	5,153.1	6,183.7	6,276.5	22.0	286.0	6,562.5	-	6,562.5	4.1	4.1	$ 23,355
Bristol Bay	129.0	-	129.0	214.4	231.5	1.5	342.1	410.5	416.7	1.0	13.0	429.7	-	429.7	3.3	3.3	$ 18,920
Chatham	153.0	-	153.0	289.1	289.1	1.6	455.7	546.8	555.0	3.0	39.0	594.0	-	594.0	3.9	3.9	$ 22,053
Chugach	49.0	225.0	274.0	131.8	138.7	1.5	207.4	248.9	252.7	1.0	13.0	265.7	180.0	445.7	1.6	5.4	$ 30,795
Copper River	432.0	56.8	488.8	679.1	696.2	1.3	916.3	1,099.5	1,116.0	6.0	78.0	1,194.0	45.4	1,239.4	2.5	2.8	$ 15,699
Cordova	316.7	-	316.7	454.2	463.2	1.2	571.6	685.9	696.2	4.0	52.0	748.2	-	748.2	2.4	2.4	$ 13,419
Craig	312.0	303.0	615.0	447.6	447.6	1.2	539.9	647.8	657.5	3.0	39.0	696.5	242.4	938.9	1.5	2.2	$ 12,681
Delta/Greely	762.0	70.0	832.0	1,002.5	1,002.5	1.2	1,244.2	1,493.0	1,515.4	14.0	182.0	1,697.4	56.0	1,753.4	2.1	2.2	$ 12,652
Denali	228.0	632.0	860.0	374.9	392.6	1.3	523.0	627.6	637.0	6.0	78.0	715.0	505.6	1,220.6	1.4	3.1	$ 17,811
Dillingham	475.0	6.0	481.0	625.2	639.5	1.3	860.7	1,032.8	1,048.3	13.0	169.0	1,217.3	4.8	1,222.1	2.5	2.6	$ 14,557
Fairbanks	14,014.0	269.0	14,283.0	15,987.8	15,987.8	1.1	17,107.0	20,528.4	20,836.3	432.0	5,616.0	26,452.3	215.2	26,667.5	1.9	1.9	$ 10,721
Galena	306.0	3,400.0	3,706.0	412.8	412.8	1.4	574.3	689.1	699.5	-	-	699.5	2,720.0	3,419.5	0.9	2.3	$ 12,983
Haines	245.0	8.0	253.0	393.3	426.6	1.2	511.9	614.3	623.5	6.0	78.0	701.5	6.4	707.9	2.8	2.9	$ 16,263
Hoonah	109.0	-	109.0	184.6	184.6	1.4	258.3	309.9	314.6	5.0	65.0	379.6	-	379.6	3.5	3.5	$ 19,779
Hydaburg	57.0	-	57.0	96.0	96.0	1.5	144.4	173.3	175.9	2.0	26.0	201.9	-	201.9	3.5	3.5	$ 20,121
Iditarod Area	178.0	50.0	228.0	379.4	408.5	1.8	754.1	904.9	918.5	1.0	13.0	931.5	40.0	971.5	4.3	5.2	$ 29,724
Juneau	4,894.0	68.0	4,962.0	5,567.5	5,567.5	1.1	6,374.8	7,649.8	7,764.5	90.0	1,170.0	8,934.5	54.4	8,988.9	1.8	1.8	$ 10,369
Kake	114.3	-	114.3	192.5	192.5	1.5	280.9	337.1	342.2	2.0	26.0	368.2	-	368.2	3.2	3.2	$ 18,292
Kashunamiut	312.0	-	312.0	443.8	443.8	1.6	718.6	862.3	875.2	4.0	52.0	927.2	-	927.2	3.0	3.0	$ 16,880
Kenai Peninsula	8,016.0	857.0	8,873.0	10,296.4	10,296.4	1.2	12,057.1	14,468.5	14,685.5	144.0	1,872.0	16,557.5	685.6	17,243.1	1.9	2.1	$ 11,732
Ketchikan Gateway	2,215.0	35.0	2,250.0	2,808.3	2,808.3	1.2	3,285.8	3,942.9	4,002.0	45.0	585.0	4,587.0	28.0	4,615.0	2.1	2.1	$ 11,763
Klawock	125.0	-	125.0	208.5	208.5	1.3	271.4	325.7	330.6	5.0	65.0	395.6	-	395.6	3.2	3.2	$ 17,975
Kodiak Island	2,400.5	120.9	2,521.4	2,992.8	2,992.8	1.3	3,857.7	4,629.2	4,698.6	35.0	455.0	5,153.6	96.7	5,250.3	2.1	2.1	$ 12,194
Kuspuk	333.0	-	333.0	582.5	617.0	1.7	1,069.8	1,283.8	1,303.0	2.0	26.0	1,329.0	-	1,329.0	4.0	4.0	$ 22,669
Lake & Peninsula	313.0	11.0	324.0	654.5	654.5	2.0	1,305.1	1,566.1	1,589.6	5.0	65.0	1,654.6	8.8	1,663.4	5.1	5.3	$ 30,025
Lower Kuskokwim	3,997.0	-	3,997.0	6,043.7	6,043.7	1.7	10,050.7	12,060.9	12,241.8	48.0	624.0	12,865.8	-	12,865.8	3.2	3.2	$ 18,283
Lower Yukon	2,004.2	-	2,004.2	3,032.2	3,032.2	1.9	5,642.9	6,771.5	6,873.1	20.0	260.0	7,133.1	-	7,133.1	3.6	3.6	$ 20,216
Mat-Su	15,476.0	1,807.0	17,283.0	17,624.2	17,624.2	1.1	18,857.8	22,629.4	22,968.9	303.0	3,939.0	26,907.9	1,445.6	28,353.5	1.6	1.7	$ 9,876
Nenana	210.0	700.0	910.0	319.3	319.3	1.3	427.2	512.6	520.3	5.0	65.0	585.3	560.0	1,145.3	1.3	2.8	$ 15,831
Nome	702.0	12.0	714.0	884.2	884.2	1.5	1,282.2	1,538.6	1,561.7	4.0	52.0	1,613.7	9.6	1,623.3	2.3	2.3	$ 13,056
North Slope	1,650.0	-	1,650.0	2,271.2	2,271.2	1.8	4,067.7	4,881.2	4,954.4	7.0	91.0	5,045.4	-	5,045.4	3.1	3.1	$ 17,368
Northwest Arctic	1,912.0	-	1,912.0	2,799.0	2,799.0	1.8	5,102.6	6,123.2	6,215.0	26.0	338.0	6,553.0	-	6,553.0	3.4	3.4	$ 19,467
Pelican	15.0	-	15.0	39.6	39.6	1.5	58.5	70.2	71.2	-	-	71.2	-	71.2	4.7	4.7	$ 26,976
Petersburg	442.0	-	442.0	637.7	653.7	1.2	813.2	975.8	990.4	14.0	182.0	1,172.4	-	1,172.4	2.7	2.7	$ 15,066
Pribilof	87.0	-	87.0	165.0	165.0	1.7	279.0	334.8	339.8	-	-	339.8	-	339.8	3.9	3.9	$ 22,186
Saint Mary's	168.0	-	168.0	267.5	267.5	1.6	434.4	521.2	529.1	2.0	26.0	555.1	-	555.1	3.3	3.3	$ 18,766
Sitka	1,318.0	36.0	1,354.0	1,611.1	1,611.1	1.2	1,925.2	2,310.3	2,344.9	40.0	520.0	2,864.9	28.8	2,893.7	2.1	2.2	$ 12,347
Skagway	68.0	-	68.0	112.4	116.3	1.2	136.5	163.9	166.3	1.0	13.0	179.3	-	179.3	2.6	2.6	$ 14,978
Southeast Island	193.0	-	193.0	466.3	466.3	1.4	654.3	785.1	796.9	8.0	104.0	900.9	-	900.9	4.7	4.7	$ 26,513
Southwest Region	597.0	-	597.0	1,001.1	1,058.1	1.7	1,782.9	2,139.5	2,171.6	9.0	117.0	2,288.6	-	2,288.6	3.8	3.8	$ 21,774
Tanana	49.0	-	49.0	84.1	84.1	1.8	150.2	180.3	183.0	2.0	26.0	209.0	-	209.0	4.3	4.3	$ 24,222
Unalaska	420.0	-	420.0	565.8	565.8	1.4	815.3	978.4	993.1	4.0	52.0	1,045.1	-	1,045.1	2.5	2.5	$ 14,133
Valdez	638.0	-	638.0	850.1	850.1	1.2	994.6	1,193.5	1,211.4	12.0	156.0	1,367.4	-	1,367.4	2.1	2.1	$ 12,173
Wrangell	288.0	85.0	373.0	418.9	441.6	1.2	511.8	614.2	623.4	7.0	91.0	714.4	68.0	782.4	2.1	2.5	$ 14,089
Yakutat	94.0	5.0	99.0	147.0	165.1	1.4	233.1	279.7	283.9	-	-	283.9	4.0	287.9	2.9	3.0	$ 17,152
Yukon Flats	256.0	-	256.0	503.5	510.4	2.1	1,080.1	1,296.1	1,315.5	5.0	65.0	1,380.5	-	1,380.5	5.4	5.4	$ 30,630
Yukon/Koyukuk	287.0	995.0	1,282.0	551.7	551.7	1.8	1,012.3	1,214.8	1,233.0	9.0	117.0	1,350.0	796.0	2,146.0	1.7	4.7	$ 26,718
Yupiit	449.0	-	449.0	724.8	724.8	1.7	1,248.9	1,498.7	1,521.1	6.0	78.0	1,599.1	-	1,599.1	3.6	3.6	$ 20,230
Mt. Edgecumbe	400.0	-	400.0	471.6	471.6	1.2	563.6	676.3	686.4	-	-	686.4	-	686.4	1.7	1.7	$ 9,747
TOTALS:	118,673.2	10,649.6	129,322.8	143,816.7	144,176.1	1.198	172,778.1	207,333.7	210,443.7	2,193.0	28,509.0	238,952.7	8,519.7	247,472.4	1.9	2.0	$ 11,437
						2.1	max							max	8.5	8.5	$ 48,449
						1.0	min							min	0.9	1.6	$ 8,815

Converting ADM to AADM--the Impact of Adjustment Factors



	Special	CTE	Correspond	Size	Geo Dif	Intensive	Combined	Total
FY05	20.0%	0.0%	6.4%	20.0%	10.1%	7.3%	8.4%	72.2%
FY14	20.0%	1.5%	7.2%	21.5%	19.8%	24.0%	14.5%	108.5%

State Direct Payments to Retirement Systems on Behalf of School Districts



Funding Alaska Public Schools

A BRIEF EXPLANATION OF THE FOUNDATION FORMULA

Senator Mike Dunleavy
August 20, 2013

Why a Foundation Formula?

Education Funding Formula

- Provides the foundation to objectively distribute state money to districts
- Recognizes the differences between districts and state funding is adjusted accordingly
- Funds basic school district costs

Current Foundation Formula

Funding formula adopted in 1998

- Fourth formula adopted by the Legislature.

Distributed on a per student basis

- Prior plans were based on a complicated "instructional unit."

Based on actual education costs

- Cost differences were based on McDowell Study.

Factors in the Foundation Formula

Student Count	• Establish the Average Daily Membership (ADM) in Oct.
School Size	• Size of school impacts the cost of a K-12 education
District Cost Factor	• Location impacts the cost of a K-12 education
Special Needs Factor	• Dollars for spec ed, voc ed, gifted & bilingual students

Factors in the Foundation Formula

CTE Factor	• Dollars to help provide career educ in grades 7-12
Intensive Services	• Recognize extra cost for intensive services
Correspondence Programs	• Counts each student in a corres program at 80%
Adjusted ADM	• Formula calculations equals an Adjusted ADM

Calculations to Adjusted ADM

Start with ADM

Apply

School Size & Hold Harmless

X

District Cost Factor

X

Special Needs Factor

X

Voc & Technical Factor

+

Intensive Services Counts

+

Corres Student Counts

Equals AADM

Basic Need

Adjusted ADM

The Adjusted Average Daily Membership (AADM) count is the basis for school funding

Basic Need

Basic Need is the revenue needed by districts to provide a basic education.

AADM X $5,680

= BASIC NEED

($5,680 = base student allocation)

State Aid

8

State Aid

State Aid is the money provided by the state to help fund local school districts programs.

Calculation

Basic Need

-

Local Support*

-

Impact Aid**

=

State Aid

* Required Local Support

** 90% of deductible impact aid funds

A Real Life Example

City School District with 727 Students

Adjusted Student Count	1,670
Per Student Dollar Amount (BSA)	x $5,680
BASIC NEED	$9,485,827
Required Local Support	- $866,390
Deductible Impact Aid	- $16,853
STATE AID TO SCHOOL DISTRICT	**$8,602,584**

Changes Since 1998

New District Cost Factor

Five-year phase-in (FY13)

New Intensive Services

Three-year phase-in (FY11)

Career Factor

Effective FY13

Hold Harmless

Effective FY09

Required Local Support

Effective FY13

State of Alaska
Department of Education and Early Development

August 20, 2013

Senate Finance Subcommittee for the Department of Education & Early Development

Elizabeth Nudelman, Director
Division of School Finance and Facilities

Pupil Transportation Discussion

August 20, 2013
Anchorage Legislative Information Office

Pupil Transportation

Topics to be covered:

- **Current Pupil Transportation Funding Mechanism**

  The program provides state funding for pupil transportation by assigning each participating school district an individual per student factor and then multiplying the factor by the current annual average daily membership (ADM) to arrive at each school district's annual funding.

Pupil Transportation Program FY2014
July 31, 2013

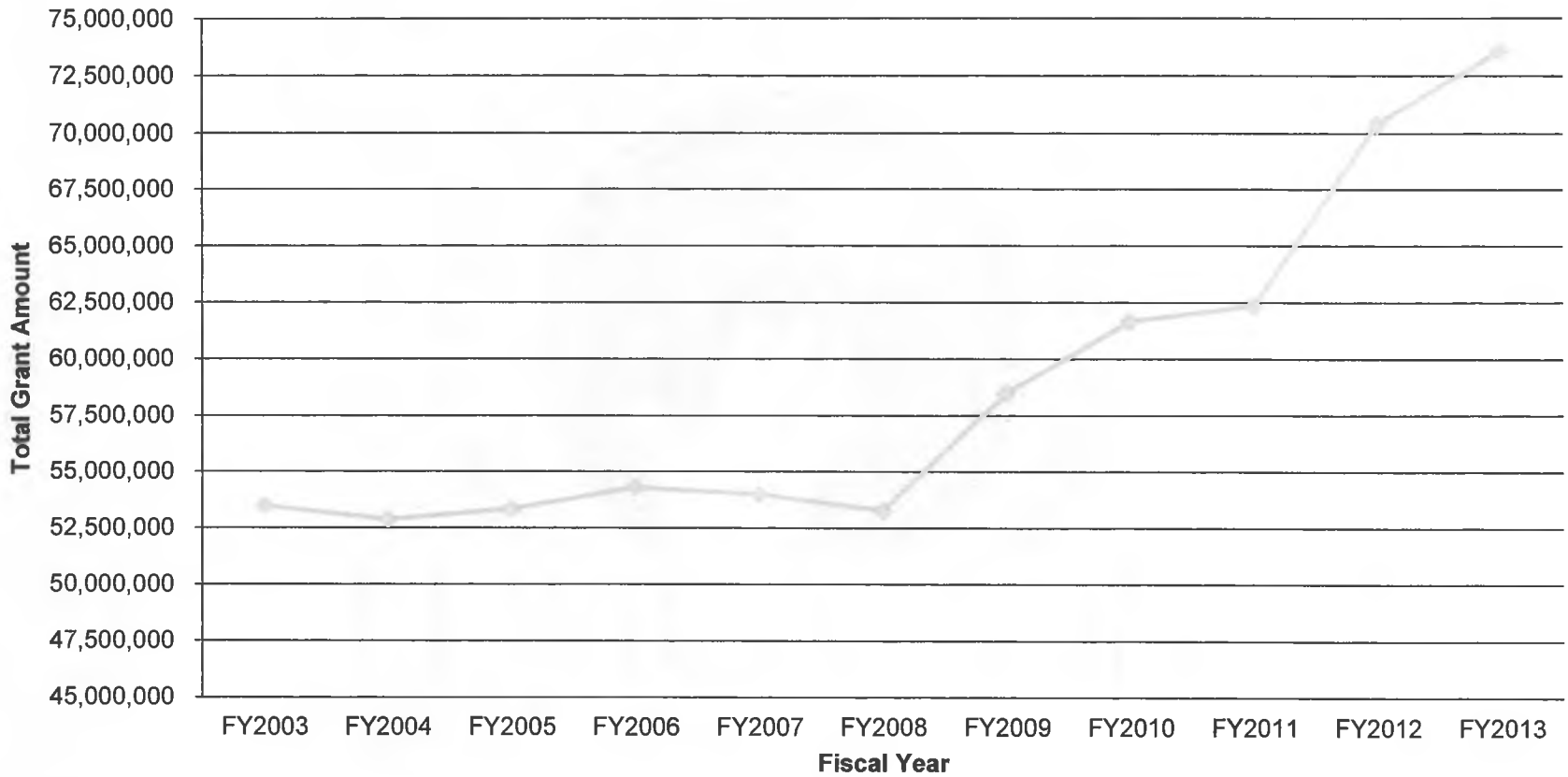
SCHOOL DISTRICT	PROJECTED FY2014 ADM	FY2014 PER-CHILD COST	ESTIMATED FY2014 GRANT
Alaska Gateway	317	$ 2,195	695,896
Aleutian Region	27	0	0
Aleutians East Borough	222	328	72,830
Anchorage	48,027	459	22,038,534
Annette Island	276	192	53,030
Bering Strait	1,596	51	81,556
Bristol Bay Borough	121	2,819	341,060
Chatham	142	295	41,941
Chugach	49	0	0
Copper River	419	1,673	700,993
Cordova	310	354	109,620
Craig	312	447	139,344
Delta Greely	762	1,747	1,330,908
Denali Borough	228	1,907	434,808
Dillingham	475	1,285	610,211
Fairbanks N. Star Borough	14,014	862	12,073,706
Galena	306	269	82,249
Haines Borough	245	660	161,752
Hoonah	109	315	34,311
Hydaburg	57	0	0
Iditarod Area	168	223	37,430
Juneau Borough	4,894	637	3,116,039
Kake	101	286	28,902
Kashunamiut	312	5	1,594
Kenai Peninsula Borough	8,016	965	7,733,580
Ketchikan Gateway Borough	2,115	767	1,621,148
Klawock	125	616	77,033
Kodiak Island Borough	2,401	843	2,024,007
Kuspuk	300	690	206,955
Lake and Peninsula Borough	329	405	133,150
Lower Kuskokwim	3,997	292	1,168,291
Lower Yukon	2,004	1	2,048
Mat-Su Borough	15,476	960	14,851,667
Nenana	210	619	130,060
Nome	702	655	459,882
North Slope Borough	1,650	1,181	1,949,363
Northwest Arctic Borough	1,826	27	48,520
Pelican	7	76	529
Petersburg	442	394	174,365
Pribilof	87	0	0
Saint Mary's	168	203	34,168
Sitka Borough	1,318	452	595,372
Skagway	68	38	2,571
Southeast Island	193	1,218	235,117
Southwest Region	608	631	383,389
Tanana	49	504	24,688
Unalaska	420	684	287,162
Valdez	631	776	489,465
Wrangell	288	739	212,805
Yakutat	94	785	73,780
Yukon Flats	256	278	71,164
Yukon Koyukuk	287	316	90,634
Yupiit	449	2	918
TOTALS	**118,004**	**$ 32,122**	**$ 75,268,545**

• Historical Pupil Transportation Funding

Department of Education & Early Development

Prepared by School Finance 8/14/2013

Pupil Transportation Program
FY2003-FY2013
Total Grant Amounts



FY 07 & FY08 no CPI increases; FY09, FY10 & FY11 CPI increases; FY 12 & FY13 legislative rate increases

Pupil Transportation

Topics to be covered:

- **Alaska Statute (AS) 14.09.010** (b) the department shall adopt regulations that provide for oversight of and support to school districts in achieving a safe and cost-effective student transportation system. The regulations must include a requirement for contract terms of not less than three years, if feasible, standardized conditions and bid periods, and standards that ensure cost efficiencies and exclusions.

- **Update on draft proposed regulations**

Department of Education & Early Development
Pupil Transportation Program History

Prior to FY2004, the program required a full-time position to compile, analyze, and submit school district reports to the Director for approval of regular transportation routes, special education routes, hazardous routes, route agreements, route requirements, in-lieu-of agreements, modification and termination of approved routes, monthly transportation and expenses reports, and reimbursements for capital expenditures for 90% of new school bus costs (including delivery). The department also reviewed and approved all pupil transportation RFPs and contracts.

In FY2004, the full-time position was eliminated when Senate Bill 202 changed the pupil transportation funding from a system of direct cost reimbursement to a grant program. From FY2004-FY2008, the change to AS 14.09.010 required the department to multiply the school district's ADM, less the correspondence ADM, during the current fiscal year by the per student allocation computed by dividing the amount received by the school district during FY2003 by the school district's ADM less the correspondence ADM during FY2003 or by $1,200, whichever was less. With this statute change, a substantial portion of the pupil transportation regulations under Chapter 27 of the Alaska Administrative Code (4 AAC 27), Transportation of Pupils, related directly to funding were repealed, including requiring approvals of the additions and deletions of transportation routes, route requirements, required reports and documents, monthly reimbursement reports, statements of operations, and RFPs and contracts.

Beginning in FY2009, AS 14.09.010 was recalibrated based on FY2007 actual expenditures under House Bill 273. The recalibrated numbers included two additional CPI increases to bring the FY2007 financial data up to the FY2009 status; this set the new per student amounts in statute. In FY2010 and FY2011, the department annually adjusted the per student amounts based on the most recent years Consumer Price Index (CPI). The CPI factor under AS 14.09.010(c) was repealed under House Bill 273 as of June 30, 2011; this held the school district pupil transportation grant amounts in FY2012 at the FY2011 level.

In FY2012 and FY2013, the per student amounts were amended with the passage of Senate Bill 182, in which school districts received supplemental funding towards the end of FY2012 and an increase in FY2013. In addition, the funding for FY2014 and FY2015 were to be adjusted by 1.5 percent each year, ultimately holding funding in FY2016 at the FY2015 level. Finally under Senate Bill 182, AS 14.09.010(d) was added and states "the department shall adopt regulations that provide for oversight of and support to schools districts in achieving a safe and cost-effective student transportation system."

In FY2013, Senate Bill 57 was passed by the 28th Legislature which made another change to the current program. Beginning in FY2014, Senate Bill 57 repealed the 1.5 percent increase each year for FY2014 and FY2015 and put back in the CPI adjustments for FY2014, FY2015, and FY2016. The CPI adjustment is set to sunset on November 1, 2015.

Funding Alaska's Retirement Systems
Legislative Finance Division
July 2013

The Basics

Retirement Plans—Defined Contribution Plans vs. Defined Benefit Plans

Defined benefit (DB) plans have a long history in the public sector. The "defined benefit" is a pension—which is a stream of benefits usually based on time of service and level of pay—that the employer must continue to pay until the recipient dies. The benefits are paid with a combination of employer and (typically) employee contributions and investment earnings.

Defined contribution (DC) plans are also typically funded with a combination of employer and employee contributions and investment earnings, but the employer's responsibility to the employee ends when the contributions are made.

Employer (and employee) contributions under a defined contribution plan may be similar to those under a pension plan. The primary distinction between plan types is not the contemporaneous cost of contributions, it is the level of risk assigned to the employer.

Assume that a defined contribution (DC) plan and a defined benefit (DB) plan have identical contribution rates.

- A DC plan offers no long-term promises to retirees; depending on investment returns, the number of years a retiree lives, and the rate of spending, a retiree can outlive his retirement savings or have a large balance left upon his death.
- Under a DB plan, the employer promises to pay a pension as long as the employee lives. If investment returns are poor or if a retiree lives far beyond life expectancy, the employer must still pay the promised benefits.

Neither plan is superior in all cases. A DC plan may be preferred by people who expect to change jobs before vesting in a DB plan, who expect to "beat the market" with their investment choices or who have a short life expectancy. A DB plan is best for those who are concerned about having a steady retirement income that will not be affected by poor investment returns or by a longer-than-expected retirement. Again, the key difference is that the employer bears 100% of the risk of long lives and poor investment returns under a DB plan, while the employee bears all the risk under a DC plan.

Hybrid plans that attempt to split risks between employer and employee will not be discussed here. The focus is on Alaska's DB plans, specifically on unfunded liability and the high cost—soon to exceed $1 billion annually—of paying for unanticipated pension costs.

Actuarial Concepts and Terminology

Funding Ratio
Actuaries use the ratio of assets to liabilities to measure the health of DB retirement systems. A funding ratio of 100% means a system is fully funded. The funding ratios for PERS and TRS are 62% and 54%, respectively, meaning that we have only about 60% of the assets required to pay benefits when due. In short, standard measures of the health of Alaska's retirement systems show them to be woefully under-funded. Note, however, that Alaska is one of a few states that consider health benefits in the calculation of future benefit costs.

Accrued Liability
In determining the funding ratio, actuaries use a projection of future benefit costs. This causes some people to incorrectly dismiss the funding ratio as a poor measure of system health because they claim it is implausible that all benefits would be paid immediately. It is important to understand that DB systems promise to pay benefits far into the future, and that the funding ratio compares anticipated assets in any given year to the value of benefits that plan participants are anticipated to accrue by the same year. The future value of assets is determined by contributions and investment returns (less benefit payments).

Accrued liability trends upward (with payroll) in a typical defined benefit retirement plan. That trend is a function of

a. the life history of employees—how many there are, how long they work, how much they earn, when they retire and when they die,
b. pension and health care formulas/agreements, and
c. inflation, which affects future salaries (which, in turn, affects benefits) and post retirement pension adjustments.

When Alaska closed its DB plan to new employees, it ensured that accrued liability will begin to trend downward beginning in the early 2030's.

Normal Contribution Rate
The "normal" employer contribution rate is the rate that would be required to fully fund a retirement system if actuarial assumptions regarding investment returns and benefit payments (among other items) were accurate. For PERS, the normal rate is about 10% of payroll. TRS and Judicial?

Unfunded Liability
Unfunded liability is typically a consequence of assumptions that fail to materialize. For example, if the annual return on investments were 7% instead of the 8% assumed by actuaries, assets would fail to grow as expected. If assumptions regarding benefits and contributions were accurate, assets would fail to keep pace with accrued liability (i.e., projected benefit payments) and the funding ratio would decline. Unfunded liability is simply the gap between accrued liability and the level of assets required to pay those benefits when due. Unfunded liability is measured in dollars—it is now about $8 billion

for PERS—and the existence of unfunded liability means the funding ratio is less than 100%.

Actuarial funding methods are generally designed to eliminate unfunded liability—or return to a funding ratio of 100% (they mean the same thing)—over a reasonable period of time.

Options to fill an unfunded liability gap are somewhat limited. Because 1) reducing benefits to match assets is difficult and slow, 2) employee contributions are difficult to increase and 3) earnings are mostly beyond the control of plan administrators, an unfunded liability gap is typically filled by increasing the employer contribution rate. Multiplying the annual contribution rate by an employer's payroll determines the amount of contributions each employer will pay, so higher rates bring in more contributions.

Amortization

Although it might be possible to increase contribution rates to a level sufficient to fill a funding gap in just a year or two, doing so would make contribution rates volatile. Instead, the unfunded liability that appears in any given year is amortized over a 25-year period in order to enhance rate stability.

There are two methods of amortization. Open amortization refers to a method that adds any new unfunded liability to the outstanding unfunded liability and amortizes the entire amount over 25 years. Unfunded liability can never be eliminated by increased contributions under this method; the gap is constantly shifted to the future. Alaska uses a closed amortization method. Closed amortization means that any newly created unfunded liability is amortized independently of "old" unfunded liability.[1] The remainder of this discussion of amortization assumes that Alaska continues to use a closed period.

Within each of these methods, there are two methods with names that refer to their impact on stability of contribution rates required to eliminate a given amount of unfunded liability.

Level percent of pay amortization retains a constant contribution rate over the amortization period. Relative to the level dollar method, payments to eliminate unfunded liability will be lower in the early years, but will increase as the constant contribution rate is applied to an ever-increasing payroll. This is the method that Alaska uses.

Level dollar amortization splits unfunded liability into equal payments over the amortization period, much as for a standard home mortgage. Because payroll is ever-increasing, a level dollar payment means that the contribution rates required to generate level dollar payments will decline over time. Because the level dollar method has larger payments in the early years, it is sometimes referred to as "front loading."

---

[1] To illustrate the difference, think of a homeowner that routinely borrows money for home improvements. Open amortization would be equivalent to refinancing all debt each year, so that the homeowner always has a new 25-year mortgage. Closed amortization is equivalent to obtaining a series of independent loans, each with a payment schedule that ends 25 years after each time money was borrowed.

Both methods eliminate the unfunded liability at the end of the amortization period and both methods are allowed under GASB rules. The ARM Board has long debated changing from level percent to level dollar amortization. Their recommendation to adopt the level dollar method in FY15 is consistent with a philosophy that the funding ratio should be increased as rapidly as possible. The change would increase FY15 state assistance to PERS and TRS by a total of $372 million.

State Assistance
As a consequence of unfunded liability, employer contribution rates in Alaska are very high and are projected to remain high for many years. The "normal" employer contribution rate—which is the rate that would be required to fund a retirement system in the absence of unfunded liability—is about 10% of payroll. For FY14, employer contribution rates were 35.84% and 52.67% for PERS and TRS, respectively.

Fortunately for employers, Alaska law caps PERS employer contribution rates at 22% and TRS rates at 12.56%. Unfortunately for the state treasury, Alaska pays the difference between the rate cap and the full actuarial rate. For example, for every $100,000 paid to PERS employees eligible for a pension, the employer will pay $22,000 (22%) to PERS, and the state will pay $13,840 (35.84%-22%).

As payroll grows—both by the addition of employees and by higher salaries to individual employees—employer and state costs will increase. If the projections are accurate, annual state assistance to retirement systems will exceed Medicaid costs and may rival the cost of K-12 education.

The consensus opinion of government budget/policy staff is that Alaska cannot afford the projected level of state assistance. Even if oil prices remain high, production declines and a new tax structure are likely to reduce state revenue in the near future. The projected level of state assistance to retirement may leave us with little flexibility to meet other budget needs.

History
See unreleased paper;

Unfunded Liability in Alaska's Retirement Systems
Where It Came From and How to Eliminate It
Teal, Legislative Finance
August 2011—revised **draft** September 2011

Issues for FY15—notes on the following issues are below.
Amortization method
GASB/Moody's

The ARM Board's Recommendation to Change the Amortization Method from Level Percent of Pay to Level Dollar

1. Changing from L% to L$ increases contributions in the near term. Because the employer rate is capped at 22% of payroll, the entire increase will be the responsibility of the State. I don't have a model run isolating the impact, but my guess is that the change adds about 5 percentage points to the employer contribution rate, which translates to:
   - ? no impact on employers other than the state and
   - ? over $300 million annually (near-term) in increased state assistance.

2. The deal on the 22% cap was based on actuarial assumptions in place at the time. Any changes to assumptions—even the reduction of projected earnings—should have affected the terms of that deal, but there was no interest (in the legislature) in increasing rates/costs paid by munis, particularly when the change was not simply an arbitrary decision, like this one.

3. Earnings assumptions are complicated in this regard: Lowering the projected ROR causes an immediate, significant increase in UL, which is then amortized. If ROR assumptions were not revised and we were under the ROR target every year, that would generate UL every year. In the end, we would pay the same amount regardless of the ROR used in the model. If actual ROR exceeds projected ROR, UL is diminished and contribution rates will fall accordingly. If actual ROR falls short of projections, UL increases and rates rise. The assumption on ROR should reflect reality; it isn't something to play with in order to affect how things look on paper.

4. The choice of amortization method is similar in that it changes the timing of contributions without impact on the discounted total paid. So why the big deal? If you think the state can better afford the increased cost now in exchange for lower costs later, the change is fine. If you are more interested in the short-term, or concerned that the state is subsidizing muni costs, the change in method is less attractive. The change will affect the share of costs paid by munis vs. the state.

5. The legislature is not forced to accept the ARMB's recommendation on rates, particularly with the new changes to GASB rules. There are several options regarding what the legislature/Governor may want to do on this issue, but it is probably best to discuss them privately before sharing ideas with the executive branch.

National Pension Standards

The changes adopted by Moody's and GASB differ substantially and will be discussed separately. Moody's will evaluate pension obligations under a standard set of assumptions to make it easier for them to assess and compare the creditworthiness of bond issuers. No action is required in response to Moody's action, and Moody's action is

unlikely to affect Alaska. GASB imposes accounting/reporting standards that we must comply with.

GASB Statements No. 67 and No. 68 take effect in FY14 and FY15, respectively. New standards address only what (and how) information must be reported on financial statements. New standards no longer provide guidance on calculating the ARC (the actuarially determined Annual Required Contribution). Alaska and other retirement plan sponsors have used the ARC not only to prepare financial statements, but also to budget pension plan contribution rates. GASB has severed the relationship between pension accounting and pension funding.

Traditionally, payment of the full ARC has been a critical measure of a retirement system health; the ARC offered an easy way to determine whether pension obligations were being appropriately funded.

GASB standards no longer address how employers fund the cost of benefits or calculate their ARC. That means the ARMB is no longer required to recommend a contribution rate and the legislature has some flexibility in its funding decisions.

On a personal note, I find GASB's actions bizarre. It is as if they think that reporting an unfunded liability on a financial statement will so enrage citizens that they will demand corrective action. But information on adequate corrective action will not be available on the financial statement. GASB is leaving states without guidance.

There is a big hole to fill here. At a minimum, the legislature may wish to consider legislation addressing the calculation of the ARC. At the extreme, legislation could address a complete fiscal package for Alaska's retirement systems.

Seven national associations formed a task force on filling the gap in guidance. Their recommendations include the following:

1. Amortization should balance intergenerational equity against the goal of keeping contributions a level percent of payroll over time.
2. State legislatures should base their pension funding on an ARC that is based upon reasonable assumptions.
3. Financial reports should clearly describe when and how pension plans will be fully funded.

Some proponents of the new reporting requirements appear to have an agenda beneath the surface message that "the public has a right to know the true costs of public employee pension systems, and governments must take prompt action to increase contributions to cover the full cost of retirement benefits." Sub-surface agendas include one or both of the following elements:

1. Once the true cost of retirement plans is reported, taxpayers with "pension envy" will demand immediate pension reform to reduce costs.

2. Reforms that put retirement systems at a healthier funding level reduce the probability that the federal government will have to bail out public employee retirement plans.

Unfunded Liability in Alaska's Retirement Systems

Where It Came From and How to Eliminate It

Teal, Legislative Finance

August 2011—revised **draft** September 2011

The purposes of this paper are to increase the understanding of Alaska's public retirement systems and to prompt discussion that will fill in the details of a plan to eliminate unfunded liability without paying hundreds of millions of dollars in annual state assistance. The paper begins with a description of Alaska's retirement systems (focusing on fiscal issues), and then presents a series of questions and answers that are intended to provide the background and options necessary to prompt discussion of how to best resolve the situation.

Alaska's two major government sector retirement systems—the Public Employees Retirement System (PERS) and the Teachers Retirement System (TRS)—have total unfunded liabilities in excess of $11 billion[1]. In simple terms, unfunded liability means that projected benefit payments are expected to exceed the level of assets required to pay those benefits. To give unfunded liability perspective and measure the health of retirement systems, actuaries use the ratio of system assets to system liabilities. A funding ratio of 100% means a system is fully funded—that is, it has no unfunded liability. The funding ratios for PERS and TRS are 62% and 54%, respectively. In short, standard measures of the health of Alaska's retirement systems show them to be woefully under-funded.

Unlike government in general, retirement systems have limited options to reduce expenditures. Because retirement benefits cannot be quickly or easily reduced, increasing assets of retirement systems is often seen as the only viable option for closing a funding gap.[2]

The standard actuarial method to increase assets is to increase employer contribution rates. Multiplying the annual contribution rate by an employer's payroll determines the amount of contributions each employer will pay, so higher rates bring in more contributions. Annual contribution rates are typically calculated in a way designed to make the system fully funded after a long period (25 years in Alaska).

As a consequence of unfunded liability, employer contribution rates in Alaska are very high and are projected to remain high for many years. The "normal" employer contribution rate—which is the rate that would be required to fund a retirement system in

[1] The $11 billion figure is based on the actuarial value of assets; using the market value of assets increases the unfunded liability to about $13.4 billion. Actuarial value is typically used to present and compare data on the soundness of retirement systems.

[2] Courts have ruled that employees have a constitutional right to accrued benefits. While benefits can be reduced—or employee contribution rates increased—for future employees, it takes several years for such changes to have a significant fiscal impact.

the absence of unfunded liability—is about 10% of payroll. For FY13, projected employer contribution rates are 35.84% and 52.67% for PERS and TRS, respectively.

Fortunately for employers, Alaska law caps PERS employer contribution rates at 22% and TRS rates at 12.56%. Unfortunately for the state treasury, Alaska pays the difference between the rate cap and the full actuarial rate. For example, for every $100,000 paid to PERS employees eligible for a pension, the employer will pay $22,000 (22%) to PERS, and the state will pay $13,840 (35.84%-22%).

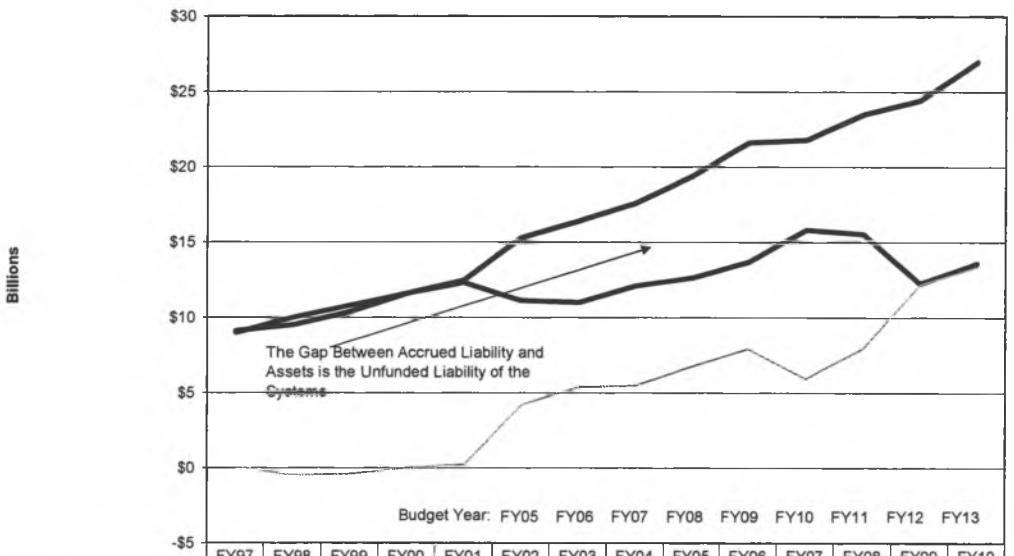
As payroll grows—both by the addition of employees and by higher salaries to individual employees—employer and state costs will increase. State assistance to retirement systems has grown from $285 million in FY10 to $358 million in FY11 to $480 million in FY12. FY13 costs are expected to be $610 million. The cost of state assistance is projected to continue to escalate—reaching a peak of $1.2 billion annually before turning downward near FY30 as the number of beneficiaries declines. If the projections are accurate, annual state assistance to retirement systems will exceed Medicaid costs and may rival the cost of K-12 education.

The consensus opinion of government budget/policy staff is that Alaska cannot afford the projected level of state assistance. Even if oil prices remain high, production declines are likely to reduce state revenue in the future. The projected level of state assistance to retirement may leave us with little flexibility to meet other budget needs. The following questions and answers are intended to provide the background and options necessary to prompt discussion of how to best resolve the situation.

Who is responsible for the poor financial condition of Alaska's retirement systems?

The short answer is "no one—the problem is attributable primarily to investment losses and to revisions of actuarial assumptions." A bit of history may help here. Until FY05, the state's actuaries claimed that Alaska's retirement systems were 100% funded. As shown in figure 1, the onset of unfunded liability was both sudden and profound. It occurred when a review of actuarial assumptions found that Mercer (former actuaries for Alaska's retirement systems) had been using outdated information to determine the condition of the retirement systems.

Figure 1. PERS/TRS Assets and Liabilities



	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Assets (Mkt Value)	9.0	10.0	10.8	11.6	12.3	11.1	11.0	12.1	12.6	13.7	15.8	15.5	12.3	13.6
Accrued Liability	9.1	9.5	10.4	11.6	12.5	15.3	16.4	17.6	19.3	21.6	21.8	23.5	24.4	27.0
Unfunded Liability	0.1	(0.5)	(0.4)	-	0.2	4.2	5.4	5.5	6.7	7.9	5.9	8.0	12.2	13.4

So Mercer is to blame?

The role of actuaries in retirement system planning is critical. Actuaries integrate assumptions regarding rates of return, inflation, mortality, and numerous other variables into a model that projects the assets and liabilities of a retirement system. The model is used to determine the contribution rates required to keep the system healthy. Mercer's actions *hid* the problem, but they are not the primary *cause* of the problem. More accurately, we would still have a large unfunded liability even if Mercer had been more attentive.

Figure 1 offers a simple explanation of the developing fiscal problem. Replacing Mercer's assumptions regarding future benefit costs caused liabilities to increase by about $2 billion in FY05, which is roughly half the unfunded liability gap that opened in that year. [3] The remaining $2 billion of the gap was due a decline in the value of assets—also caused in part by a revision of actuarial assumptions. If the condition of the retirement systems had been more accurately depicted, contribution rates in prior years

[3] The funding gap actually opened in FY02. However, there is a three-year lag between events and reaction in Alaska's retirement systems. The financial condition of the systems at the end of FY02 determined contribution rates for FY05, which is when the budding fiscal problem first received widespread attention. As an example of the time lag, note that the financial market slide of 2008 and 2009 (as indicated by the downturn in the value of assets) affected rate calculations in FY11 and FY12. In this paper, references to years refer to the year for which rates are calculated (i.e., the budget year) rather than to the actuarial valuation year.

would have been higher (and the FY05 unfunded liability reduced). Note, however, that market losses in FY08 and FY09 account for at least $5 billion of the unfunded liability gap (compared to what the gap would have been if assets had continued an upward trend).

While some argue that earnings on prior contributions (had Mercer's rate calculations called for them) would have narrowed the gap, there are a few points to consider:

- Mercer's actions caused a change in the timing of employer contributions but not necessarily a significant change in the amount of contributions—Mercer took no money from the systems.
- The impact of additional contributions (and earnings on them) would have been partially offset by additional losses in the market crash of FY08 and FY09.
- A statutory cap on rate increases prevented rates (in FY05 through FY07) from being set as high as actuarial calculations recommended.

Does the State—or the Alaska Retirement Management Board (ARMB)—bear some responsibility?

Neither the State nor the ARMB have contributed significantly to the fiscal problems of Alaska's retirement systems. In fact, Alaska's many positive actions include:

- Reflecting health care costs in the funding ratio. Although Alaska's retirement systems rank near the bottom in a nationwide list of funding adequacy, Alaska is one of the few states that include projected health care costs in benefit projections. Most other states overstate the funding adequacy of their public retirement systems by excluding health care costs.
- Holding the line on benefit increases. During periods of strong performance in financial markets, retirement systems often reach or exceed 100% funding ratios. Many states reacted to high funding ratios in the 1990s by increasing retiree benefits. Alaska did not increase benefits—we created a new, lower cost tier for PERS employees new to the system after 1996.
- Eliminating a statutory cap on annual increases in employer contribution rates soon after the cap began to limit rate increases.
- Paying the full contribution rates recommended by the state's actuaries. Several states reduced contributions as the recession strained budgets.
- Adopting realistic actuarial assumptions. It is tempting to make retirement systems appear to be healthier by modifying assumptions regarding rates of return, discount rates, inflation rates, life expectancy and many other variables that affect the calculation of funding ratios. The ARMB should be applauded for recently adopting a set of more realistic assumptions. These assumptions increased the calculated amount of unfunded liability by about $2 billion.
- Replacing defined benefit plans with defined contribution plans. The primary difference between defined benefit (DB) and defined contribution (DC) retirement plans is assignment of risk. In a DB plan, the employer offers a defined level of benefits (typically a monthly pension) and absorbs the risk that deviations from actuarial assumptions—like lower-than-expected return on investment and longer-

than-expected payout streams—may increase the cost of providing the defined benefit. In a DC plan, the employer agrees to contribute a defined amount (typically a percentage of earnings) to individual retirement accounts and the *employee* absorbs all risk that his account balance will not be sufficient to provide the expected retirement benefits. Each type of plan has advantages and disadvantages to employees and employers, but there can be no debate that unfunded liability would be higher in FY12 if the State had not adopted DC plans. In essence, DC employees bore the brunt of market losses in FY08 and FY09. If those employees had been in a DB plan, system liabilities would be higher and *employers* would be responsible for replacing market losses.

Who is responsible for paying the unfunded liability?

The short answer is "employers." But again, the answer is not as simple as one might think. Until the reforms of FY08, Alaska's public employers (as in many states) had individual contribution rates that were based on the experience of each employer. Without legislative action, the average PERS contribution rate would have been over 32% for FY08, and some municipal contributions would have been more than 100% of their payrolls. To make matters worse, there was consensus that rates would go higher before beginning a downward trend and that rates would not go below 23% before FY30. With severe fiscal pressure—even bankruptcy—on the horizon, municipalities (and the State) wanted to make PERS contribution rates stable, predictable and affordable.

The solution involved three steps:

1. Adopting a shared cost system—meaning that liabilities, assets and payrolls were pooled and every participating employer paid a single contribution rate based on the blended experience of all participating employers.
2. Setting employer contribution rates at no more than 22% of payroll.
3. Shifting costs (in excess of those covered by the 22% rate) to the State.

These actions did not reduce the total cost of PERS, they simply provided financial assistance to political subdivisions. The State (as administrator of the retirement system) has no moral or legal obligation to provide assistance to municipalities (or other employers) for PERS costs; all participating employers are responsible for paying system costs.

Then why did the State agree to pay costs over 22% of payroll?

State actions were intended primarily to rescue political subdivisions from the brink of disaster. There were several factors involved in the decision:

1. The State was in a better fiscal position than local governments to address the problem.

- At the time, high oil prices provided surplus revenue to the treasury while increasing the costs of local government. PERS assistance was a way to share revenue with political subdivisions.
- The magnitude of the problem appeared much less daunting than it does now. Actuarial projections showed the annual cost of PERS assistance would reach about $70 million per year before falling to $20 million by FY20 and to zero by FY30.

2. Actuarial models produced fund balances that were much higher than needed to pay benefits in the long term. This indicated that contribution rates were higher than necessary and that the true costs of state assistance might be lower than actuarial projections.
3. There would be opportunities to revise actuarial methods to reduce or eliminate state assistance in the future if the cost of state assistance became unaffordable.

Those original projections of state assistance trending downward from $70 million per year bear little resemblance to reality or to the revised outlook for continued escalation. Recall the discussion from page two—state assistance to retirement systems has grown from $285 million in FY10 to $358 million in FY11 to $480 million in FY12. FY13 costs are expected to be $610 million. The cost of state assistance is projected to continue to escalate—reaching a peak of $1.2 billion annually before turning downward as the number of beneficiaries declines. The original projections did not anticipate billions of dollars of investment losses or the adoption (beginning FY13) of revised actuarial assumptions that increased the unfunded liability by another $2 billion.

The revised outlook for costs of state assistance changes the entire landscape; because the State cannot afford the multi-billion cash outlay that is now projected, we must look for ways to reduce or eliminate annual state assistance.

Can the State simply stop paying annual state assistance?

Yes, under conditions outlined later in this paper.

There are two seemingly contradictory truths about retirement system funding:

1. Unfunded liability is a debt to the system.
2. Unfunded liability is a "soft liability" that can be extinguished in ways other than paying it off.

Those who take a hard line approach to retirement funding believe the debt must be paid, preferably as soon as possible because delays add interest costs to the existing debt. This approach implies contribution rates must remain at the actuarially recommended rate. Others argue that higher-than-expected earnings are just as effective as contributions when it comes to reducing the unfunded liability, and that overreaction to poor short-term investment returns is unwarranted. Several states have adopted this line of reasoning and have opted to pay less than the actuarial rate to their retirement systems.

But arguing about precisely how or when to close an unfunded liability gap misses the point. The underlying reason Alaska can stop making annual state assistance payments is that the legislature closed Alaska's defined benefit retirement plans to new employees.

Why does closing a retirement system allow us to ignore traditional rate calculations designed to pay off the unfunded liability?

In a typical defined benefit retirement plan, the actuarial objective is to maintain assets equal to accrued liability. In a typical defined benefit retirement plan, accrued liabilities increase every year. The upward trend is a function of:

1. the life history of employees—how many there are, how long they work, how much they earn, when they retire and when they die,
2. pension and health care formulas/agreements, and
3. inflation, which affects future salaries (which, in turn, affects benefits) and post retirement pension adjustments.

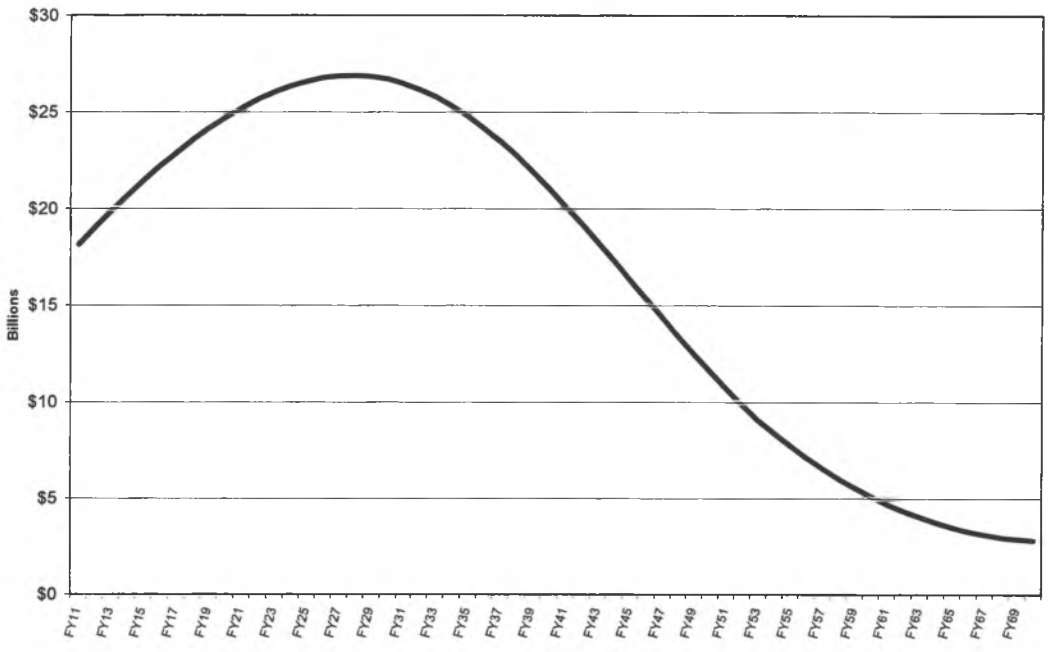
Once an employee is hired, there is little that can be done to control the accrual of benefits for that person. In attempting to match assets and liabilities, actuaries effectively take liabilities as a given; they focus on increasing assets to reach an ever-increasing level of accrued liabilities. Benefit payments (and investment losses) reduce assets, and the following items increase assets:

1. Earnings—but return on investment is typically an input of a model (and manipulating projections of asset values by using overly optimistic assumptions regarding earnings is not in anyone's best interest).
2. Employee contributions—but this rate is not typically subject to change due to constitutional provisions protecting accrued benefits.
3. Employer contributions—this is the primary variable used to generate asset growth.

The key to the ability to modify actuarial objectives is that Alaska does not have a typical retirement system. The traditional actuarial approach works well when liabilities are ever-increasing, as they are under an open system. Because Alaska closed PERS and TRS defined benefit plans to new entrants, a plotted line of liability will turn downward in the future. The lack of new entrants constrains the accrual of additional liability, and liability associated with those already in a defined benefit plan declines as retirees die.

The downturn can be seen (beginning near 2030) in figure 2, which shows projections for the accrued liability of the PERS system through 2070 (the last defined benefit plan employee is projected to retire in the early 2040s).

Figure 2. Projected PERS Liabilities
Buck Baseline Scenario



The year in which the downturn begins and the speed of the decline depend on assumptions built into the model. The exact location of the peak and the year in which liability reaches zero are not particularly important; the point is that the liability curve *will* turn downward and *will* reach zero when the last pensioner dies.

But doesn't closing a retirement plan to new entrants also mean that contributions will fade away as the number of participating employees declines?

Not in Alaska. ***Another key point is that PERS and TRS employers pay contributions based on their full payroll, not just on the payroll of employees participating in defined benefit plans.***

For employees in PERS or TRS defined benefit plans, the full amount of employer contributions goes to retirement trust accounts from which benefits are paid. This is typical of retirement plans. For participants in PERS and TRS defined contribution plans, the employer contributes the normal cost—meaning a rate that does not include repayment of unfunded liability—to each employee's individual retirement account and to the shared health care trust. The remainder of employer contributions—the difference between the full employer rate (22% for PERS and 12.56% for TRS) and the normal cost of the defined contribution plan—goes to the retirement trusts to pay defined benefits. State assistance payments also go to trust accounts and reduce unfunded liability.

In short, contributions to the retirement trust funds need not fade away as defined benefit employees are replaced with defined contribution employees.

The situation doesn't sound fair—why do the trust funds get contributions for employees who are ineligible for pensions?

First, let's be perfectly clear that defined contribution *employees* do not contribute to defined benefit trust funds. It is *employers* that contribute, and those contributions are not made on behalf of particular employees, they are simply a way of paying the bill that employers owe. Payroll is just a way of allocating costs among employers. Using the full payroll reduces contribution rates. The potential distortion caused by using full payroll to allocate costs was considered to be insignificant relative to the employment discrimination that could have resulted if employer contribution rates varied for each tier that employees were in.[4]

But benefits outlays don't start to decline for almost 20 years. If there is no more state assistance, won't PERS employer contributions be fixed at 22% longer than they would be under the current approach? Won't that mean employers pay more than they should?

There is no question that reducing state assistance will keep employer contribution rates at 22% for a longer period. As an example of the impact of stopping state assistance, a test scenario with a $2 billion deposit of state funds in FY13 extended the 22% rate by two years.

In fairness, the extension of the 22% rate does accurately portray the degree of cost shifting (from the State to employers) that could occur if annual state assistance is ended. Employer contribution rates drop from 22% to (near) zero in just two years under the baseline scenario. Under the $2 billion deposit scenario, that rate cliff would be replaced with a more gradual decline. Because there are several factors that could affect how gradual that decline might be, no sample graph is included here.

The point to keep in mind is that the State is not responsible for paying off the unfunded liability—employers are.

---

[4] Consider the example of a DB employee—with a retirement cost of 22%—competing for a job against a new employee for whom retirement contributions were only half as much.

If the state no longer provides annual assistance of hundreds of millions of dollars, how do we guarantee there will be enough money on hand to pay benefits when they are due?

There are no guarantees when it comes to making long-term projections involving many complicated variables. The best we can do is to have actuaries create a scenario in which there is no annual state assistance. Buck prepared such a scenario for both PERS and TRS. The models used to create the scenarios incorporate the assumptions recently adopted by the ARMB. The following discussion is limited to the PERS scenario.

A test scenario with employer rates capped at 22% and no annual state assistance indicated the PERS trust fund will be empty near 2040. But that is not an indication of failure of the concept. The purpose of the test scenario was to determine how large a one-time addition of money would be required to replace annual state assistance. As a starting point, Buck ran a scenario with a $2 billion deposit in FY13. The results in figure 3 indicate that a $2 billion deposit will be sufficient to pay benefits when due.

Figure 3. Projected PERS Assets and Liabilities with a $2 billion Deposit in FY13

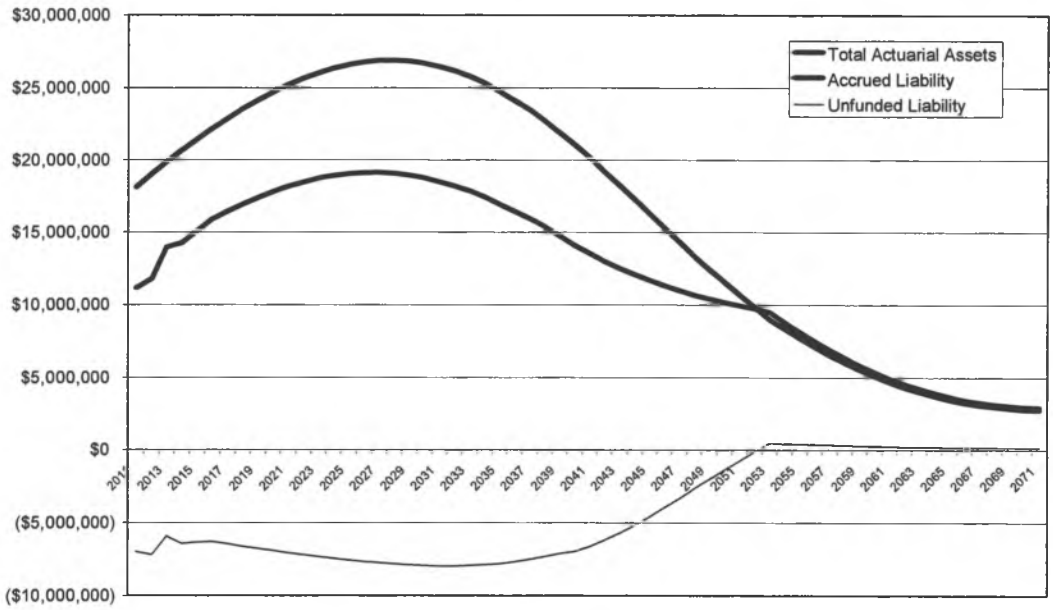


Figure 3 indicates that a $2 billion deposit in FY13 would bring the funding ratio—the ratio of assets to liabilities—to 100% in the early 2050s. Put another way, the unfunded liability would be eliminated in the early 2050s. What figure 3 does not show is that the result is achieved with no employer contributions to the trust fund after the early 2050s; annual investment returns would be sufficient to pay annual benefits.

Need Buck to run scenarios with various up-front payments and various triggers for transfer from reserves to the trust. The easiest trigger is likely the funding ratio—money would transfer from reserves to keep the ratio above an arbitrary minimum. Money cannot be transferred from the trust to reserves, nor can contributions go to the reserve account. A secondary trigger to transfer from reserves to the CBRF would allow the state to recover the deposit and would keep rates above zero. All this stuff is needed to flesh out options and needs to be done before releasing this paper.

Why is a one-time deposit better than annual payments?

A one-time deposit isn't necessarily better; it is just more expedient:

- There is no guarantee that money will be available in the future (after operating and capital budgets) to make large projected annual payments, or that the legislature will vote to use any surplus revenue to pay down the unfunded liability.
- We currently have sufficient reserves to solve the problem with a single vote.

Wouldn't a one-time deposit deplete all reserves outside the Constitutional Budget Reserve Fund, particularly if there is a similar plan for TRS?

While one could argue that the source of money is unimportant from a technical perspective, the source *is* important from a political perspective. Without going into detail, let's assume that legislative leadership wants to adopt annual budgets without obtaining the supermajority vote required to access the Constitutional Budget Reserve Fund (CBRF). If we use non-CBRF reserves for retirement systems, a future reduction in revenue could quickly exhaust the remaining non-CBRF reserves, thus forcing annual supermajority votes to get a budget through the legislature.

For those who want to avoid annual supermajority votes, the better option is to make a single transfer from the CBRF to retirement systems.

But that would mean reopening a liability to the CBRF. Wouldn't that mean a return to the days sweeping available general funds into the CBRF at the end of each year, with an annual supermajority vote required to reverse the sweep?

Any withdrawal from the CBRF must be repaid (per Article IX, Section 17(d) of the State Constitution), and available general funds must be swept into the CBRF at the end of each year until the liability is repaid. But a supermajority vote limited to reversing the sweep has not been a political problem in the past and there are ways to minimize the impact of a sweep. Those actions include transferring balances subject to the sweep—

including the statutory budget reserve fund—to a non-sweepable fund such as the Alaska Housing Capital Corporation account. Necessary transfers can be made with a simple majority vote in any appropriation bill.

Is there a chance that we can recover the money from retirement trust accounts to repay the CBRF?

Once money is deposited to the trust accounts, it can be used only to pay benefits. But there is an option that avoids this problem. Rather than depositing money in the retirement trust accounts, we could create a reserve account from which money could be transferred to the trust accounts only as needed.

What are the advantages of a reserve account versus deposits to trust accounts?

When it comes to the ability to pay benefits when due, there is no difference between having a single account or two accounts. The primary advantage of the reserve account is that the reserve balance would be recoverable. We would have the flexibility to withdraw funds during a budget crisis or, in what appears to be a likely scenario, when benefit outlays decline to the point that reserves are no longer necessary.

Determining who "owns" the "leftover" money in a trust account is problematic. It is likely that a surplus balance in the trust would go the federal government as well as to state and local government employers.[5] That is, it is more likely that the State could recover state assistance payments made to a reserve account than to a trust account.

The potential for recovery may be a critical factor in deciding where a one-time deposit should go. Modeling efforts show that the PERS trust may have "too much" money once benefit outlays begin to decline near 2040 (as evidenced by a very rapid decline in contribution rates once the system is fully funded). That problem would be exacerbated if a deposit to the trust account were followed by higher-than-projected earnings.

There are several options for setting up transfers from the reserve account to the trust account. Perhaps the simplest is to establish a statutory minimum funding ratio and make automatic transfers from reserves to the trust to maintain that ratio. For example, each year actuaries would compare assets in the trust to system liabilities, and if that ratio fell below 40%, the amount required to bring the ratio to 40% would be transferred from reserves to the trust. More sophisticated triggers could be developed as part of a legislative package, or the issue can be left for others to address in the future.

---

[5] A federal claim to leftover trust funds would be based on the proportion of payroll paid with federal receipts. In response to an inquiry, the Department of Administration said that the federal government not only could, but assuredly would, expect recovery of a share of the trust when it was no longer required to pay retirement benefits.

Wouldn't the reserve account be subject to the annual sweep of available funds to the CBRF?

The reserve account would not be subject to the CBRF sweep if transfers from reserves to the trust did not require appropriation. This condition could be met with a trigger mechanism that transferred money under specified conditions, such as the funding ratio of the system.

What are the disadvantages of a reserve account versus deposits to trust accounts?

Deposits to the trust offer certainty that cannot be matched by annual state assistance payments or by a reserve account. For those seeking a guarantee of sufficient balances to pay future benefits, the flexibility offered by a reserve account will be seen as a disadvantage. Future legislatures could appropriate the reserve balance for purposes other than payment of benefits. This may appear to be a fatal flaw in the reserve account approach, but there is little practical difference between recapturing money from reserves and failing to pay state assistance.

Because reserve account balances are not dedicated to the payment of benefits, actuaries will exclude the balance from the calculation of "official" funding ratios. This will make the retirement system appear to be in poorer fiscal condition than it is, thereby potentially affecting state bond ratings. Again, this is not necessarily a fatal flaw.

- Actuaries can compute the funding ratio with and without reserves. While the former method does not conform to GASB (Government Accounting Standards Board) rules, those rules affect only the reporting of information—they are not standards of behavior.
- The approach can be explained to rating agencies, who may agree that the official numbers do not tell the complete story and conclude that establishing a defined contribution system and a reserve account are preferable (in that they put the state in a healthier fiscal position) to the significant annual state assistance payments that will be required if we do not address the problem.

What about earnings on reserve fund balances—where would they go?

The reserve fund would be invested by the ARMB and earnings would accumulate in the reserve fund, just as earnings on trust fund balances accumulate in the trust fund.

Earnings are a key component of the ability to pay benefits when due. Earnings on money transferred from the CBRF would be used to pay benefits (as necessary). Any balance not needed to pay benefits can be used to repay the liability to the CBRF or go to the general

fund. Because the liability to the CBRF is limited to the amount of principal withdrawn, the transfer to a retirement reserve fund is effectively a zero-interest loan.

Can we get by with a transfer of less than $2 billion to PERS?

As noted earlier, peering 30 years into the future in not an exact science. A model scenario with no annual state assistance and $2 billion deposit in FY13 shows that:

- employer contribution rates fall below 22% by 2040 and
- the total funding ratio—the ratio of trust fund assets plus reserve fund assets to system liabilities—hovers near 70% until about 2045, and then turns upward to reach 100% by the early 2050s.[6] The current funding ratio is 62%.

These are indicators that $2 billion is more than sufficient to maintain a healthy retirement system while eliminating state assistance. But the projections are very sensitive to investment returns—for example, the FY11 return of 20% generated about $1.2 billion more than anticipated under an assumption of an 8% return. The higher-than-expected return is fiscally identical to a deposit paying off $1.2 billion in unfunded liability.

In short, a few bad years of investment returns can make a $2 billion deposit insufficient to keep the system healthy, while a few good years could make a $2 billion deposit far larger than necessary to accomplish the goal of paying benefits when due without relying on state assistance. This variability underscores the advantage of establishing a reserve account. The $2 billion figure is an arbitrary amount that allows for a little misfortune; if the deposit turns out to be more than required, surplus reserve balances can be returned to the CBRF or go to the treasury.

Why the focus on PERS—What about TRS?

PERS is far more complex than TRS. TRS is inherently simpler because the State is effectively the only employer. The cost to the State would be the same whether school district retirement costs were paid through the K-12 foundation formula or by paying state assistance directly to the trust fund.

It is important to understand that stopping PERS assistance could shift future costs from the state treasury to employers (including the state itself). Stopping TRS assistance would shift the timing of state contributions without shifting costs away from the state.

In determining whether to make a one-time deposit to TRS, there are several issues to consider:

---

[6] Ideally, scenarios testing the sensitivity of results to deposit amount, rate of return and other variables would be available. We have not yet requested additional model runs.

1. If the objective is to reduce annual assistance payments, then the concept is as relevant to TRS as it is to PERS.
2. There will be a constituency that will have difficulty understanding why the legislature would address problems in only one of the two retirement systems.
3. The costs of funding the TRS system will be paid by the State, now or in the future. Other than waiting for high investment returns to fix the problem of high contribution rates—which is unlikely because employer contributions will decline as DC payroll replaces DB payroll—there is little reason not to follow the approach proposed for PERS.
4. The statutory employer rate for TRS (12.56%) provides very little headroom between normal rates (about 10.5%) and the statutory rate—meaning that employer contributions will decline significantly as the DB payroll fades away. The DC payroll under PERS will continue to generate money as the PERS DB payroll declines because the statutory (maximum) employer contribution rate of 22% is much higher than the normal rate.
5. Increasing the statutory TRS rate will not reduce state costs—it will simply move the costs from direct state assistance to state assistance through the K-12 formula (assuming that school districts are not expected to absorb the higher costs).
6. Even though TRS is roughly half the size of PERS, TRS would require a deposit of about $4 billion to put the system on sound financial footing in the absence of annual state assistance.
7. As an alternative to making a deposit sufficient to eliminate annual TRS assistance, a cap on the actuarial rate (perhaps linked to the funding ratio) could be used to reduce payments.

Can this discussion be condensed to a step-by-step plan?

Assuming the goal is to replace annual state assistance with a one-time payment that is sufficient to ensure that future benefits can be paid when due, there are too many options to permit development of a firm plan at this time. A general outline—with some of the many variables and alternatives highlighted—follows:

1. Amend Alaska statutes to accomplish the following:
    a. Establish a retirement reserve fund.
        - A single fund to address PERS? Should TRS be addressed? If so, are separate funds better than a combined fund?
        - Alternative: no reserve fund(s) required—deposit money directly to the trust fund(s).
    b. Eliminate requirements for state assistance payable when actuarial rates exceed statutory rate caps.
    c. Establish a trigger to transfer from reserves to the trust fund.
        - A more conservative trigger—meaning one that makes the system appear healthier by GASB standards—requires a larger deposit.
    d. Establish a trigger to recover money from the reserve fund.

- Is there a desire to recapture any of the deposit? Only the original deposit? Earnings on the deposit?

2. Appropriate money from the CBRF to the reserve fund (supermajority vote required).
    - How much money?
    - Use savings other than the CBRF?
3. Transfer non-CBRF savings balances to nonsweepable accounts in order to minimize the impact of supermajority votes associated with an outstanding liability to the CBRF.

The outline is not intended to be comprehensive—its purposes is to prompt discussion that will fill in the details of a plan to eliminate unfunded liability without paying hundreds of millions of dollars in annual state assistance.

What about other options to reduce unfunded liability and/or state assistance?

When exploring options to solve a problem, it is useful to specify goals so that options can be evaluated in terms of their potential for meeting those goals. Agreeing on goals is not always an easy task—goals differ in priority from person to person, and some goals may not be shared by all parties involved in finding a solution. As a starting point, options are evaluated based on their potential for meeting the following goals:

1. Ensure that PERS can pay all benefits when due.
2. Retain the "22% deal" that makes municipal contribution rates as stable and affordable as possible.
3. Minimize annual state assistance costs.

To simplify the discussion, let's assume that goals 1 and 2 are met so that we can focus on goal 3. Options that make progress toward goal 3 fall under one of three approaches:

1. Do nothing

This is a viable option. A few years of 20% investment returns—as occurred in FY11—would reduce annual assistance by reducing the unfunded liability. Even if investment returns on retirement trust funds are near the 8% projected, the State could use earnings on savings accounts or other revenue to continue to pay escalating costs of state assistance. Of course, doing so would not reduce budgetary pressure caused by a drop in revenue. In short, doing nothing works well as long as state revenue remains strong.

The reserve account approach outlined in this paper may appear to be a variation of the "do nothing" option because it relies on earnings from a savings account to eliminate state assistance. The key difference from the "do nothing" approach is that earnings on the CBRF are not currently part of the available revenue stream. By using a "new" source of revenue to fund state assistance, a reserve account created with a

transfer from the CBRF reduces potential budgetary pressure.[7] Of course, reduced earnings in the CBRF would reduce the period that reserves could be used to balance the budget.

2. Accelerate the reduction of unfunded liability

For those who accept model output as our future reality, making higher near-term contributions is the only viable method to significantly reduce annual state assistance in the future. Unfortunately, any action that increases actuarial contribution rates is contradictory to the goal of reducing annual state assistance, assuming the state continues to absorb the cost of any rate above 22%. Raising employer contribution rates, making a one-time deposit or a series of smaller deposits are simply variations of the theme. It takes additional money to reduce unfunded liability.

The reserve account approach outlined in this paper adds money to the system. As discussed, the primary advantage of a reserve account (over deposits to the PERS and/or TRS trust accounts) is that it permits the State to recover the deposits if they turn out to be too large.

A **cash-out plan** is an alternative method to reduce unfunded liability. Instead of aiming to increase assets, such a plan is intended to reduce future liabilities. Under such a plan, retirees and/or beneficiaries would be offered a choice to receive a lump-sum payment in lieu of future pension and health care benefits. Because the lump-sum would be less than the present value of benefits, the unfunded liability would be reduced whenever a person chose the lump-sum option. The reduction of unfunded liability would depend primarily on:

- The discount from actuarial value—paying 99% of the present value of benefits would save little, if any, money, while paying 50% of value could result in substantial savings (if anyone chose an option with such a steep discount).
- The number of people that chose the lump-sum option—the participation rate would likely decrease as the discount from present value increased.
- Adverse selection—which is the tendency for those who expect a long retirement period to select a pension and those who expect a short retirement period to select the lump-sum. Couples with dual retiree health benefits might also tend to select the lump-sum option for one spouse.

Buck's analysis of the plan concludes that it could reduce unfunded PERS liability by $91 million to $485 million—which translates to reductions of annual state assistance of $6 million to $30 million. The analysis comes with the caveat that results are highly dependent on assumptions.

[7] Use of general funds or money from savings accounts would not have the same effect as using "new" money from the CBRF; earnings from those sources are currently part of the available revenue stream.

Note that a cash-out plan—which addresses the liability side of the unfunded liability issue—is compatible with plans that work to increase system assets. There is little reason to focus on only one side of the issue.

3. Revise actuarial methods or assumptions in order to restate the magnitude of the problem.

Closing retirement systems to new entrants allows—but does not force—a reassessment of actuarial methods. Changing methods or assumptions in response to changes in retirement systems would be valid; changes made with the intent to hide the magnitude of a problem should be avoided. As noted in this paper, the ARMB recently adopted a set of assumptions that *increases* the calculated amount of unfunded liability.

The reserve account approach outlined in this paper does not revise actuarial methods or assumptions, other than changes associated with tracking money that is part of the system—reserve fund balances—but is outside the trust fund. Several changes in methodology—including shortening the amortization period in years when unfunded liability is paid down, refinancing outstanding unfunded liability, adopting a rolling amortization period, and redefining funding targets—that might reduce state assistance were discarded. They were discarded not because they are ineffective tools to reduce state assistance, but because retaining a common set of assumptions and methods facilitates the comparison of various options.

Alaska Retirement Management Board

Senate Finance Subcommittee on Education

August 20, 2013

Alaska Retirement Management Board

- Role of the Alaska Retirement Management Board
- Actuarial Oversight
- ARMB Actions (and Limitations) to Address Unfunded Liability
- Present and Future Course
- Outcomes of Anchorage Stakeholder Workshop

Role of ARMB

Alaska State Pension Investment Board (1992-2005)

1. Responsible for "management and investment of" assets in the retirement funds
2. Liabilities, contribution rates and health care issues addressed by Teachers' Retirement and Public Employees' Retirement Boards sited in Department of Administration

Alaska Retirement Management Board (2005-present)

1. Manage/invest assets to meet liabilities & pension obligations of the systems, plan, program, and trusts.
2. Set employer contribution rates
3. Greater duty w/respect to pension liabilities & obligations
4. Recommend to budget-setting and appropriations arms of gov't, but cannot appropriate or submit a budget

Role of ARMB, contd.

5. Adopt investment policies for each of the Funds; approve investment options for DC plans after consulting with Plan Administrator
6. Approve investment objectives for DB Plans
7. Annual actuarial evaluation to determine assets, accrued liabilities, funding ratios and certify appropriate contribution rate for normal cost and liquidating past service liability
8. Annually report to Governor, legislature, employers valuation of trust fund assets and liabilities and other statistical data to understand system
9. Quarterly report of investment performance to Legislative Budget and Audit
10. Contract for services to execute boards powers and duties

ARMB Powers and Duties

- AS 37.10.071(a)(7): "In making investments under this section, the fiduciary of a state fund shall ... perform all acts, not prohibited by this section, whether or not expressly authorized, that the fiduciary considers necessary or proper in administering the assets;"
- 071(c): "In exercising investment, custodial, or depository powers or duties under this section, the fiduciary of a state fund shall apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the fund entrusted to the fiduciary. Among beneficiaries of the fund, the fiduciaries shall treat beneficiaries with impartiality."

Limited Ability to Impact Unfunded Liability

ARMB Responsibilities:

- Determine asset allocation and investment objectives
- Determine amortization methodology
- Set investment return assumption
- Set employer contribution rates
- Provide input on actuarial assumptions

Limited Ability to Impact Unfunded Liability

ARMB cannot:

- Appropriate funds
- Submit budgets
- Authorize issuance of POBs
- Authorize loans or funding into the retirement system

Actuarial Oversight

- Primary actuary: Responsible for conducting annual actuarial valuation to determine assets, accrued liabilities, funding ratios; certify contribution rate for normal cost and rate for liquidating past service liability; experience analysis performed once every four years
- Review Actuary: Responsible for reviewing and certifying all actuarial assumptions contained in primary actuary valuation and experience analysis before presentation to Board; health cost assumptions reviewed annually
- Auditing Actuary: Responsible for conducting an independent audit of the state's actuary not less than once every four years

Where We Have Been

The Alaska Retirement Management Board has taken actions to address the pension systems' unfunded liability and other issues over the past seven years including:

- Supported cost-sharing multiple employer system for PERS
- Supported direct appropriations to PERS and TRS
- Supported pension obligation bonds
- Reduced earnings assumption rate to 8%
- Adopted level-dollar amortization to fund costs sooner rather than later
- Stakeholder meeting
- Outreach to Legislature

Where We Have Been

The Alaska Retirement Management Board evaluated 40 potential scenarios in 2011 and supported options which included:

- 25-year or 30-year amortization
- Lump-sum contributions with continued State assistance
- Change to level dollar amortization

Rejected options which included:

- Lump-sum contributions with no further State assistance > 22%
- Cost-shifting from State to municipalities and vice-versa
- Requiring assets outside trust fund be used to set rates
- Extending amortization if significantly higher costs than status quo

Resolution 2013-02

At its February 2013 meeting ARMB passed Resolution 2013-02 requesting:

....that the Alaska Legislature, in addition to state assistance, appropriate in each of the next four sessions the sum of $500 million toward retirement of the unfunded liability of the Alaska Public Employees' Retirement System and Teachers' Retirement System.

Problem Definition

At $11.8 Billion as of June 30, 2012, the unfunded liability of the retirement systems creates growing pressures on the state budget as annual contributions exceed $1 Billion per year under the status quo

Problem Definition: Increasing State Contributions

Growth in Unfunded Liability

- At June 30, 2012
  - PERS - $7.4 billion
  - TRS - $4.4 billion
- 2005 - $6.9B in 2005 to $11.8B in 2012
- Grew $4.9B in 7 years ($700M / year)

Growth in State Contributions

- 2013 - $608M;
- 2015 = $975M;
- Thereafter > $1B for 8 years; 13 consecutive years > $900M

Status Quo

- FY12 State payroll makes up 61% of total PERS payroll, leading to state paying 81.7% of PERS U/L under SB125
- State pays significant portion of TRS employer contributions
- Employer contribution rate caps: 22% for PERS; 12.56% for TRS
- Retirement System fully funded in 2032 (18 years)

- Interest on PERS/TRS unfunded liability was $889 Million in 2012
- It will take $27 Billion to pay off $12 Billion Liability
- Typically, approx. 70% of pension and health benefits are funded through interest earnings. When the system is underfunded employer contributions must fill the void.

Details of Funding Request

FY 2014-2017 appropriation cycle = $2B infusion

* $250 Million to PERS x 4 years
* $250 Million to TRS x 4 years

Current Actuarial Assumptions Remain in Place

* 8% Earnings Assumption
* Level Dollar Amortization

Details of Funding Request (continued)

Baseline State Assistance PERS and TRS Contributions (2013-2031)	State Assistance after FY14-17 Appropriations $250 Million Each to PERS/TRS
$16.7 Billion	$14.9 Billion

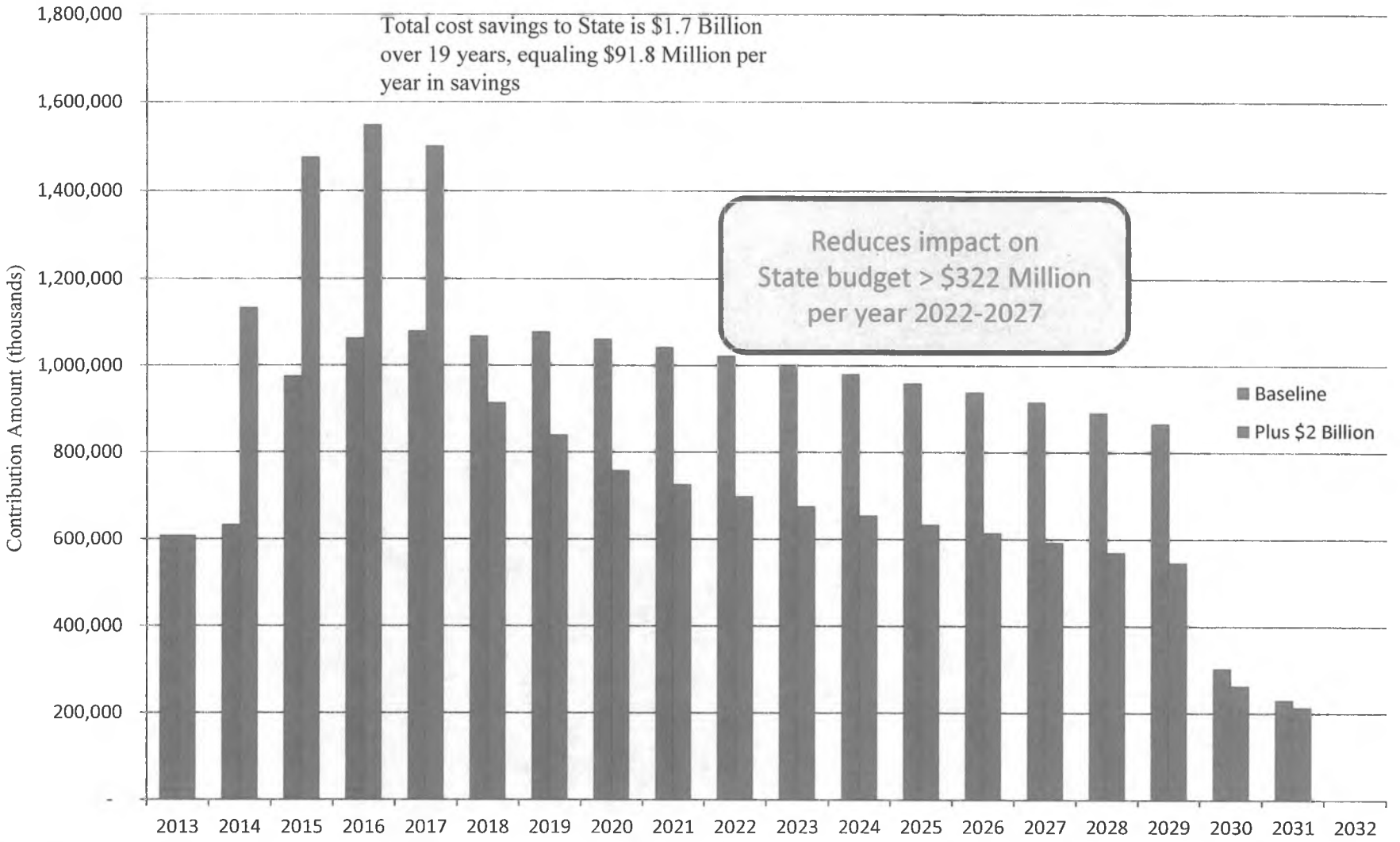
$1.7 Billion Savings in State of Alaska Assistance Contributions

[$91.8 Million Savings Each Year]

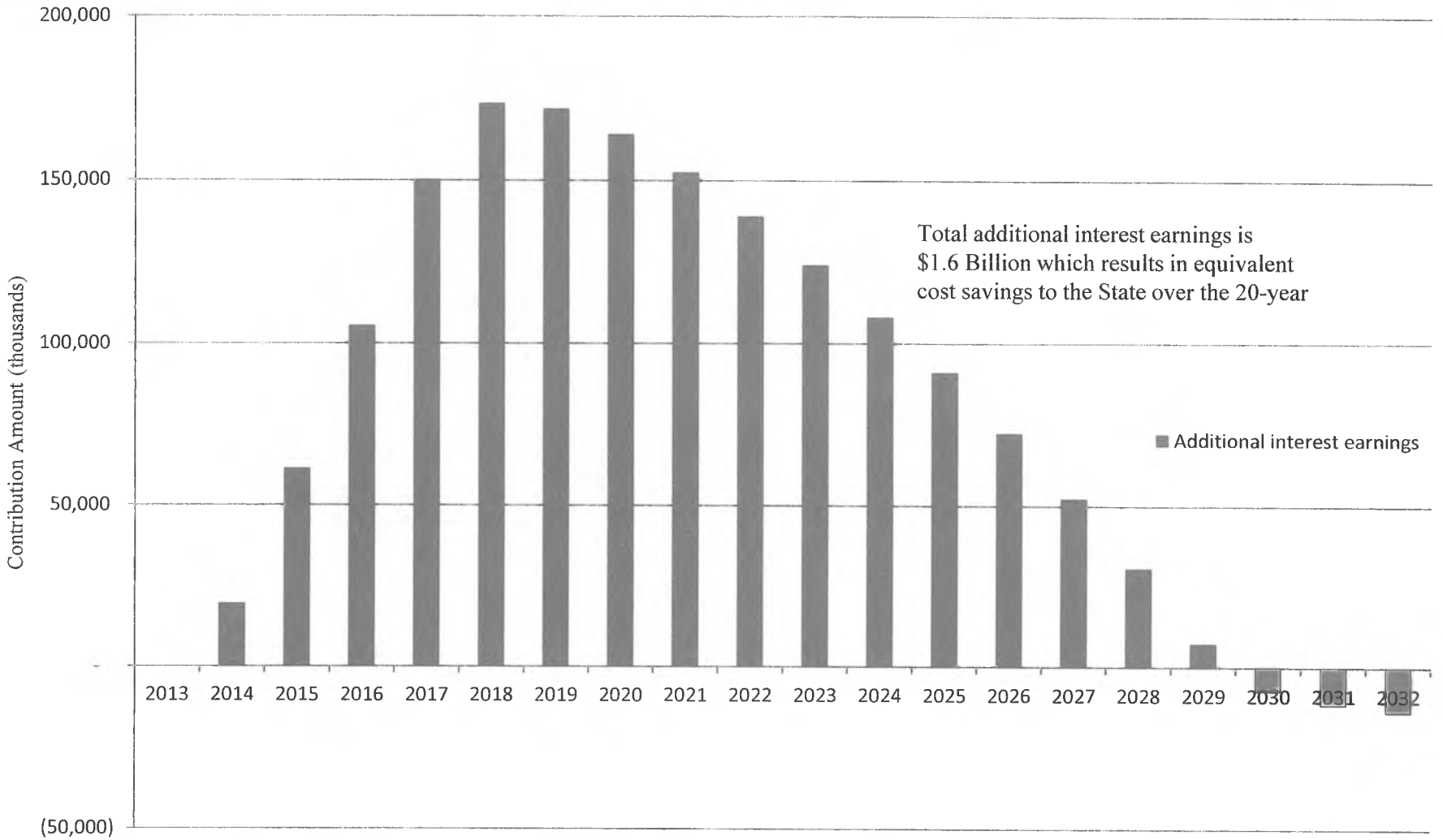
$33 Million Savings in Employer Contributions 2013-2031

[$1.65 Million Savings Each Year – Includes Savings to State as an Employer]

State Assistance: Baseline vs. $2B injection



Additional Fund Earnings with $2B Injection



Annual State Assistance Savings in thousands from $2B Injection* (vs. status quo)

	Baseline - Level Dollar and 8% return			Level Dollar and 8% return PLUS $250M to PERS and $250M to TRS each year FY14 - FY17			Annual Savings
	PERS	TRS	PERS + TRS	PERS	TRS	PERS + TRS	
2013	310,528	298,101	608,629	310,528	298,101	608,629	-
2014	319,456	315,053	634,509	569,456	565,053	1,134,509	(500,000)
2015	519,676	455,904	975,580	769,676	705,904	1,475,580	(500,000)
2016	572,439	489,935	1,062,374	815,639	733,165	1,548,804	(486,430)
2017	576,925	502,245	1,079,170	787,294	712,891	1,500,185	(421,015)
2018	563,734	503,650	1,067,384	486,636	426,968	913,604	153,780
2019	566,220	511,074	1,077,294	446,414	392,443	838,857	238,437
2020	549,597	510,979	1,060,576	397,960	360,845	758,805	301,771
2021	530,984	511,071	1,042,055	372,455	354,025	726,480	315,575
2022	511,130	510,919	1,022,049	348,993	350,213	699,206	322,843
2023	490,148	510,769	1,000,917	327,713	349,007	676,720	324,197
2024	469,924	510,255	980,179	307,485	347,931	655,416	324,763
2025	449,483	509,478	958,961	287,253	347,339	634,592	324,369
2026	429,310	508,993	938,303	267,492	347,179	614,671	323,632
2027	407,509	508,033	915,542	245,981	346,594	592,575	322,967
2028	384,751	506,783	891,534	224,501	345,865	570,366	321,168
2029	360,954	505,441	866,395	201,123	344,827	545,950	320,445
2030	10,870	291,874	302,744	-	262,474	262,474	40,270
2031	-	230,333	230,333	-	213,718	213,718	16,615
2032	-	-	-	-	-	-	-
	8,023,638	8,690,890	16,714,528	7,166,599	7,804,542	14,971,141	1,743,387
Savings:	857,039	886,348	1,743,387				

* $500M/year x 4 years

Funding Request (continued)

- For every $1 contributed today, the State saves an *additional* $1 in required future State assistance
- Level Dollar reduces pressure on State budget when oil production is declining and State budget is even more strained
- Cash infusion allows investment earnings to replace employer contributions and state assistance
- Bottom line: Pay now or pay much more later

Stakeholder Meeting

Purpose: *Provide a forum for stakeholders to discuss potential solutions to pay down the retirement systems' unfunded liability and mitigate the impact of increasing retirement system contributions on future state budgets.*

Attendees included: Legislators and/or staff; OMB, DOR, DOA; NEA, RPEA, APEA, Firefighters; AGFOA, AML, AASB

Primary Outcomes

- Borrow from ourselves
  - Mitigates risks of borrowing from capital markets
  - Provides guaranteed return to reserves
  - Prefer to borrow from CBR since SBR earnings are swept into GF
  - State's bond rating not adversely affected if we borrow from ourselves
  - Demonstrates that Alaska has a plan to address U/L
  - Leverages significant reserves without consuming them
- Direct appropriation
  - Prefer a single lump-sum rather than spread over multiple years
- Pension Obligation Bonds as a partial solution

Majority agreed on the need for substantial injection into system now.

ARMB Next Steps

- Respond to Governor's question: What level of up-front contribution into the retirement system, combined with level dollar amortization, would be needed to reduce future state assistance payments from today's levels?
- Outreach/Education to the legislature and other stakeholders
- Research/education issues from stakeholder meeting

Thank You

The Alaska Retirement Management Board thanks the Alaska State Legislature for its commitment to fund the State's retirement system, and for its consistent annual contributions to the Systems.

Thank you also for the opportunity to present this information to you.

APPENDIX

ARMB Role

ARMB powers and duties:

- "AS 37.10.220(a)(2): "after reviewing recommendations from the Department of Revenue, adopt investment policies for each of the funds entrusted to the board."
- 220(a)(3): "determine the appropriate investment objectives for the defined benefit plans.."
- 220(a)(4): "assist in prescribing the policies for the proper operation of the systems and take other actions necessary to carry out the intent and purpose of the systems in accordance with AS 37.10.210 – 37.10.390."
- 220(a)(8): "coordinate with the retirement system administrator to have an annual actuarial evaluation…prepared to determine system assets, accrued liabilities, and funding ratios and to certify to the appropriate budgetary authority of each employer in the system (A) an appropriate contribution rate for normal costs; and (B) an appropriate contribution rate for liquidating any past service liability."

ARMB Role

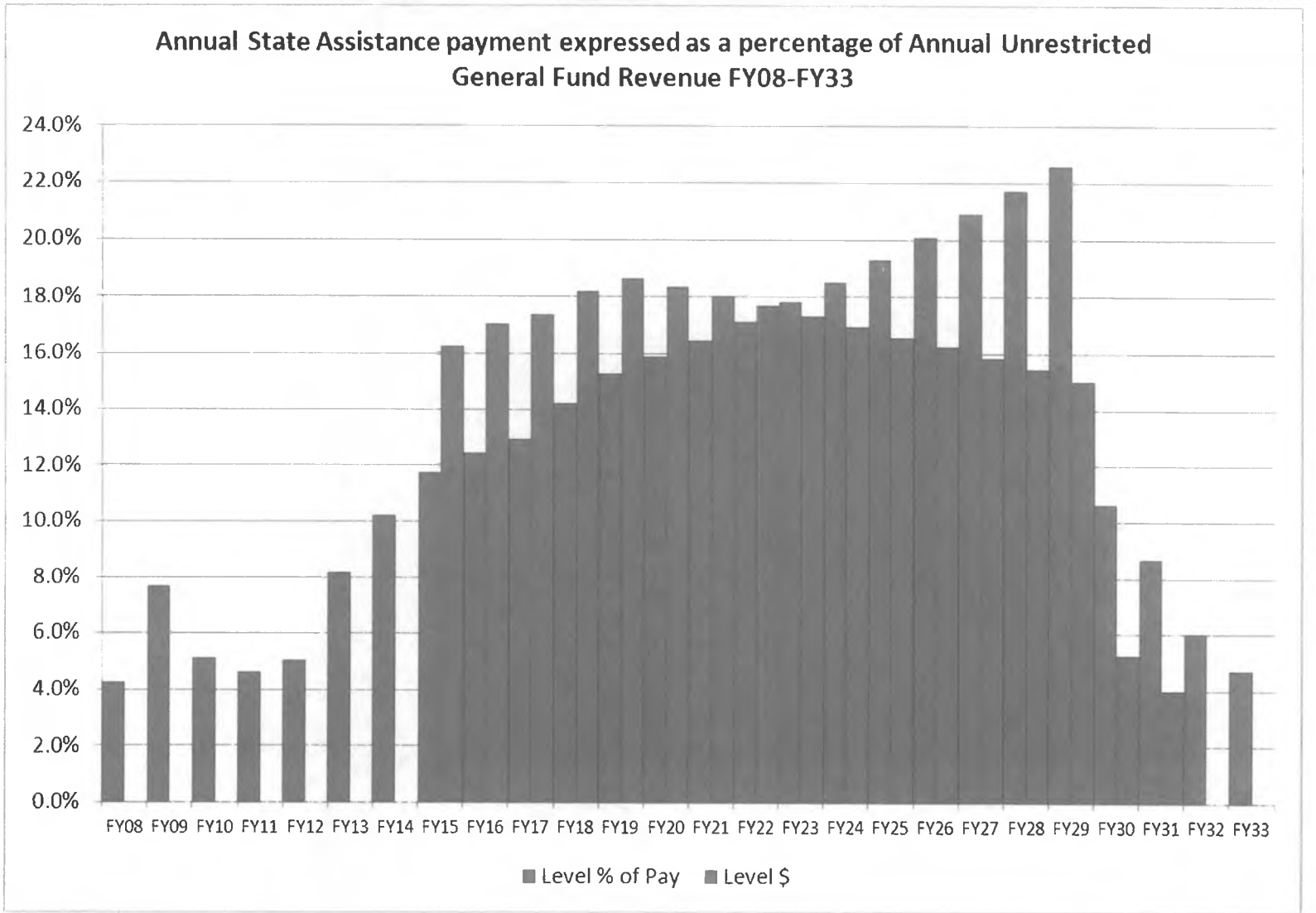
ARMB powers and duties:

- 220(a)(13): "[annually]...report to the governor, the legislature, and the individual employers...on the financial condition of the systems in regard to (A) the valuation of trust fund assets and liabilities....and (G) other statistical data necessary for proper understanding of the financial status of the system."
- 220(a)(14): "Submit quarterly updates of the investment performance reports to the Legislative Budget and Audit Committee."
- 220(b)(3): "contract for other services necessary to execute the board's powers and duties."

Role of Review Actuaries

- AS 37.10.220(a):
- 220(a)(8): Coordinate with the retirement system administrator to have an annual actuarial valuation of each retirement system prepared to determine system assets, accrued liabilities, and funding ratios and to certify to the appropriate budgetary authority of each employer in the system (A) an appropriate contribution rate for normal costs; and (B) an appropriate contribution rate for liquidating any past service liability
- 220(a)(9): Review actuarial assumptions prepared and certified by a member of the American Academy of Actuaries and conduct experience analyses of the retirement systems not less than once every four years, except for health cost assumptions, which shall be reviewed annually; the results of all actuarial assumptions prepared under this paragraph shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the board;
- 220(a)(10): Contract for an independent audit of the state's actuary not less than once every four years;
- 220(a)(11): Contract for an independent audit of the state's performance consultant not less than once every four years;
- 220(a)(12): Obtain an external performance review to evaluate the investment policies of each fund entrusted to the board and report the results of the review to the appropriate fund fiduciary;

Why change Level % of Pay to Level Dollar



PERS: 2012 increase in Unfunded Liability

Public Employees' Retirement System

Changes in Unfunded Liability Since Last Year
($ in millions)

Development of Change in Unfunded Liability during FY12		
1. 2011 Unfunded Liability		$6,927
a. Interest on unfunded liability	$554	
b. Normal cost	289	
c. Employee contributions	(113)	
d. Employer contributions	(406)	
e. State relief under SB 125	(243)	
f. Medicare Part D subsidy	(32)	
g. Interest on b., c., d., e., and f.	(8)	
h. Expected change in unfunded liability during FY12		41
2. Expected 2012 Unfunded Liability		$6,968
a. Liability (gains)	$(540)	
b. Assets losses	805	
c. Change in healthcare assumptions	227	
d. Other changes in unfunded liability during FY12		492
3. Actual 2012 Unfunded Liability		$7,460

11

buck consultants

PERS: 2012 change in Employer/State Contribution Rate

Public Employees' Retirement System

Peace Officer/Firefighter and Others Combined
Change in Total Employer/State Contribution Rate

Normal cost: 6.82%;
Past service cost: 33.03%
Total Rate: 39.85%

	Pension	Healthcare	Total
1. Last year's total Employer/State contribution rate	16.47%	15.84%	32.31%
2. Change due to:			
• Change in amortization method	4.89%	2.32%	7.21%
• New healthcare assumptions	N/A	0.75%	0.75%
• Effect of two-year delay in the contribution rate	0.25%	(0.04%)	0.21%
• Asset experience	2.40%	0.71%	3.11%
• Salary increases	0.23%	N/A	0.23%
• Demographic experience and other*	(1.00%)	(1.23%)	(2.23%)
• Claims costs	N/A	(1.74%)	(1.74%)
• Total change	6.77%	0.77%	7.54%
3. Total Employer/State contribution rate this year	23.24%	16.61%	39.85%

*Includes data and programming changes.

TRS: 2012 increase in Unfunded Liability

Teachers' Retirement System

Changes in Unfunded Liability Since Last Year
($ in millions)

Development of Change in Unfunded Liability during FY12		
1. 2011 Unfunded Liability		$4,191
a. Interest on unfunded liability	$336	
b. Normal cost	98	
c. Employee contributions	(52)	
d. Employer contributions	(74)	
e. State relief under SB 125	(235)	
f. Medicare Part D subsidy	(13)	
g. Interest on b., c., d., e., and f.	(7)	
h. Expected change in unfunded liability during FY12		52
2. Expected 2012 Unfunded Liability		$4,243
a. Liability (gains)	$(192)	
b. Asset losses	359	
c. Change in healthcare assumptions	67	
d. Other changes in unfunded liability during FY12		234
3. Actual 2012 Unfunded Liability		$4,477

+ $226 M

16

buckconsultants

TRS: 2012 change in Employer/State Contribution Rate

Teachers' Retirement System

Change in Total Employer/State Contribution Rate

Normal cost: 6.40%;
Past service cost: 59.91%
Total Rate: 66.31%

	Pension	Healthcare	Total
1. Last year's total Employer/State contribution rate	31.40%	18.70%	50.10%
2. Change due to:			
• Change in amortization method	9.52%	3.55%	13.07%
• New healthcare assumptions	N/A	0.63%	0.63%
• Effect of two-year delay in the contribution rate	0.52%	0.19%	0.71%
• Asset experience	3.47%	0.71%	4.18%
• Salary increases	0.00%	N/A	0.00%
• Demographic experience and other*	(0.36%)	(0.29%)	(0.65%)
• Claims costs	N/A	(1.73%)	(1.73%)
• Total change	13.15%	3.06%	16.21%
3. Total Employer/State contribution rate this year	44.55%	21.76%	66.31%

*Includes data and programming changes.

19

buckconsultants

State of Alaska
Department of Education and Early Development

August 20, 2013

ALASKA DEPARTMENT OF EDUCATION & EARLY DEVELOPMENT

Senate Finance Subcommittee for the Department of Education & Early Development

Elizabeth Nudelman, Director
Division of School Finance and Facilities

School Construction Discussion

August 20, 2013
Anchorage Legislative Information Office

Current School Construction Requirements and Future Requirements

Topics to be covered:

- **Grant program Alaska Statute (AS) 14.11.013**
  - CIP application due each Sept 1.
  - Two lists:
    - Major Maintenance
    - Construction

- **Priorities are listed in Statue and Regulation**

Current School Construction Requirements and Future Requirements

- **Debt Program AS 14.11.100**
  - Applications accepted for 70% and 60% projects
  - Bonds reimbursed through the school finance debt program
  - FY2013 Report

Current School Construction Requirements and Future Requirements

- **Energy Costs**
  - Preventative Maintenance & Facility Management AS 14.11.011 (3) & 4 AAC 31.013
  - District site visit checklist
  - Department to review plans AS 14.07.020 (a)
  - AS 14.11.014(b) (8) standards for energy efficiency: ASHRE 90.1

School Debt Reimbursement
Budget Summary FY2003 - FY2014
$ Thousands

16 pages

FY2003	56,378.4
FY2004	66,024.1
FY2005	81,870.1
FY2006	86,463.5
FY2007	93,935.0
FY2008	94,997.0
FY2009	97,021.2
FY2010	100,045.3
FY2011	106,258.5
FY2012	108,145.6
FY2013	120,386.3
FY2014	128,263.1

Attachments

Attachment C

ABS Component Detail Reports (3 pages)
School Construction Debt Retirement Worksheets for each fiscal year (12 pages)

Prepared by Department of Education and Early Development, Administrative Services
8/15/2013

State of Alaska
Department of Education and Early Development
School Debt Reimbursement Program

Fiscal Yr	Principal	Interest	Liability
FY14	107,878,501	55,766,843	111,303,255
FY15	109,398,370	50,900,160	108,920,292
FY16	107,608,973	46,097,035	104,130,512
FY17	103,768,920	41,385,468	98,243,186
FY18	102,544,458	36,809,117	94,069,057
FY19	97,110,364	32,192,583	87,243,432
FY20	92,529,346	27,842,094	80,974,769
FY21	92,437,505	23,628,296	77,995,804
FY22	79,098,731	19,698,405	66,115,043
FY23	77,493,196	16,186,420	62,177,010
FY24	64,299,834	13,004,108	51,168,071
FY25	53,950,180	10,315,528	42,573,463
FY26	38,775,932	8,203,246	31,322,799
FY27	34,370,446	6,461,692	27,122,059
FY28	31,482,554	4,904,769	24,194,616
FY29	24,581,944	3,562,640	18,881,413
FY30	20,581,815	2,479,749	15,671,012
FY31	17,754,397	1,570,984	13,189,730
FY32	12,610,479	761,137	7,432,461
Totals	1,268,275,944	401,770,274	1,122,727,986

Notes:

1. This spreadsheet includes principal, interest and state liability for school bonds sold, that the Department has a bond payment schedule for, on file.

2. The state liability would increase approximately $6 million annually for every $100 million in bonds sold.

3. This is the State of Alaska's liability if no new bonds are sold.

Alaska Housing
FINANCE CORPORATION

School Energy Use

Findings from "A White Paper on Energy Use in Alaska's Public Facilities"

Presentation to Senate Finance Subcommittee for the Department of Education and Early Development

August 20, 2013

4300 Boniface Parkway • Anchorage, Alaska 99504 • P.O. Box 101020 • Anchorage, Alaska 99510 • 907-338-6100 (Anchorage) or (Toll-Free) 1-800-478-AHFC (2432) • www.ahfc.us

Alaska Housing
FINANCE CORPORATION

Why AHFC, Energy & Public Facilities?

- Energy efficiency programs merger (1992)
- Developed expertise in energy efficiency
- State legislation

Alaska Housing
FINANCE CORPORATION

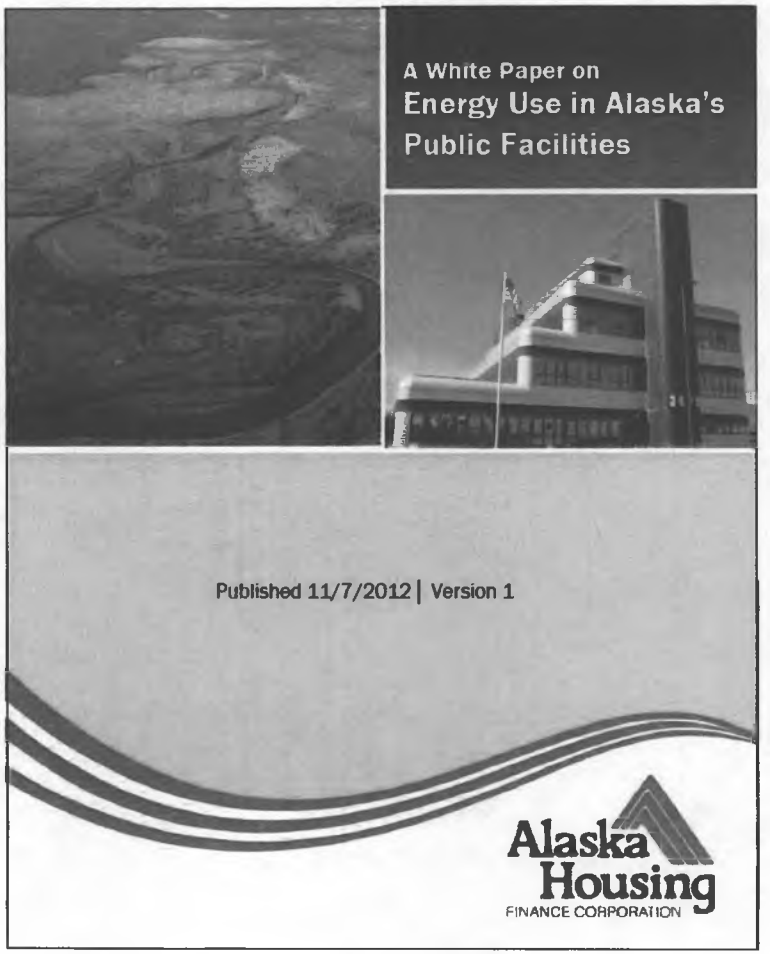
AHFC, Energy & Public Facilities

Alaska Senate Bill 220 in 2010

Established $250 million revolving loan fund in AHFC for energy efficient improvements of public facilities

AHFC utilized ARRA funds to begin to assess public facility energy use

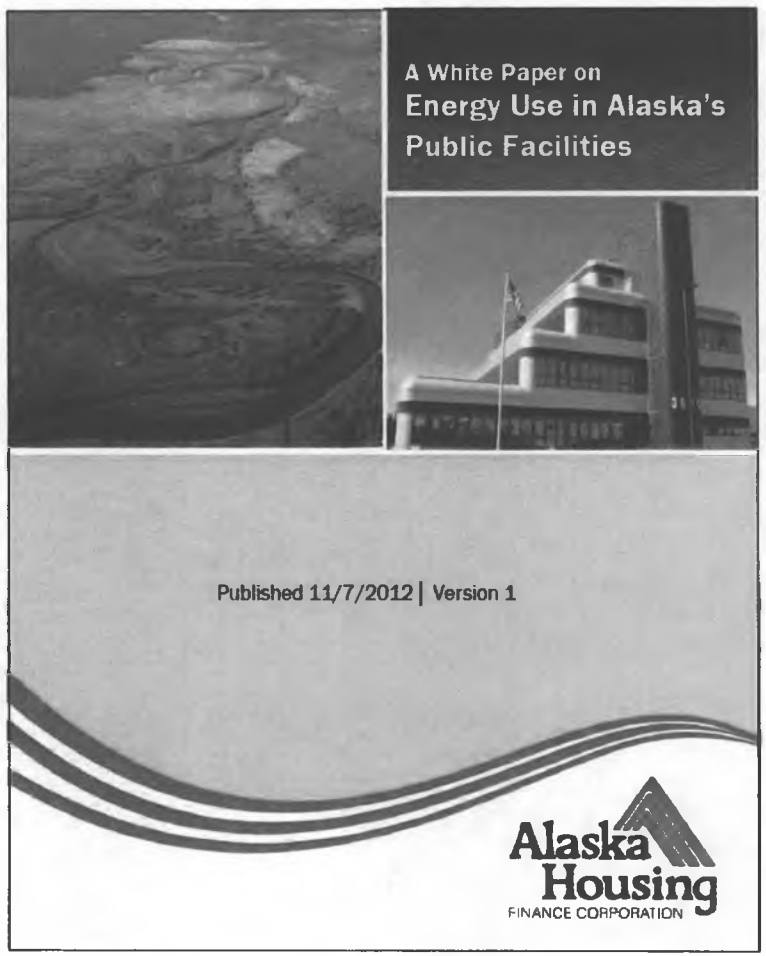
AHFC Assessment Process



www.ahfc.us

- Benchmarking
- Identify highest energy use buildings
- Perform ASHRAE Level 2 Investment Grade Audits of identified buildings using contractors
- Data gathered and analyzed
- Report of findings

AHFC Energy Audit Results



www.ahfc.us

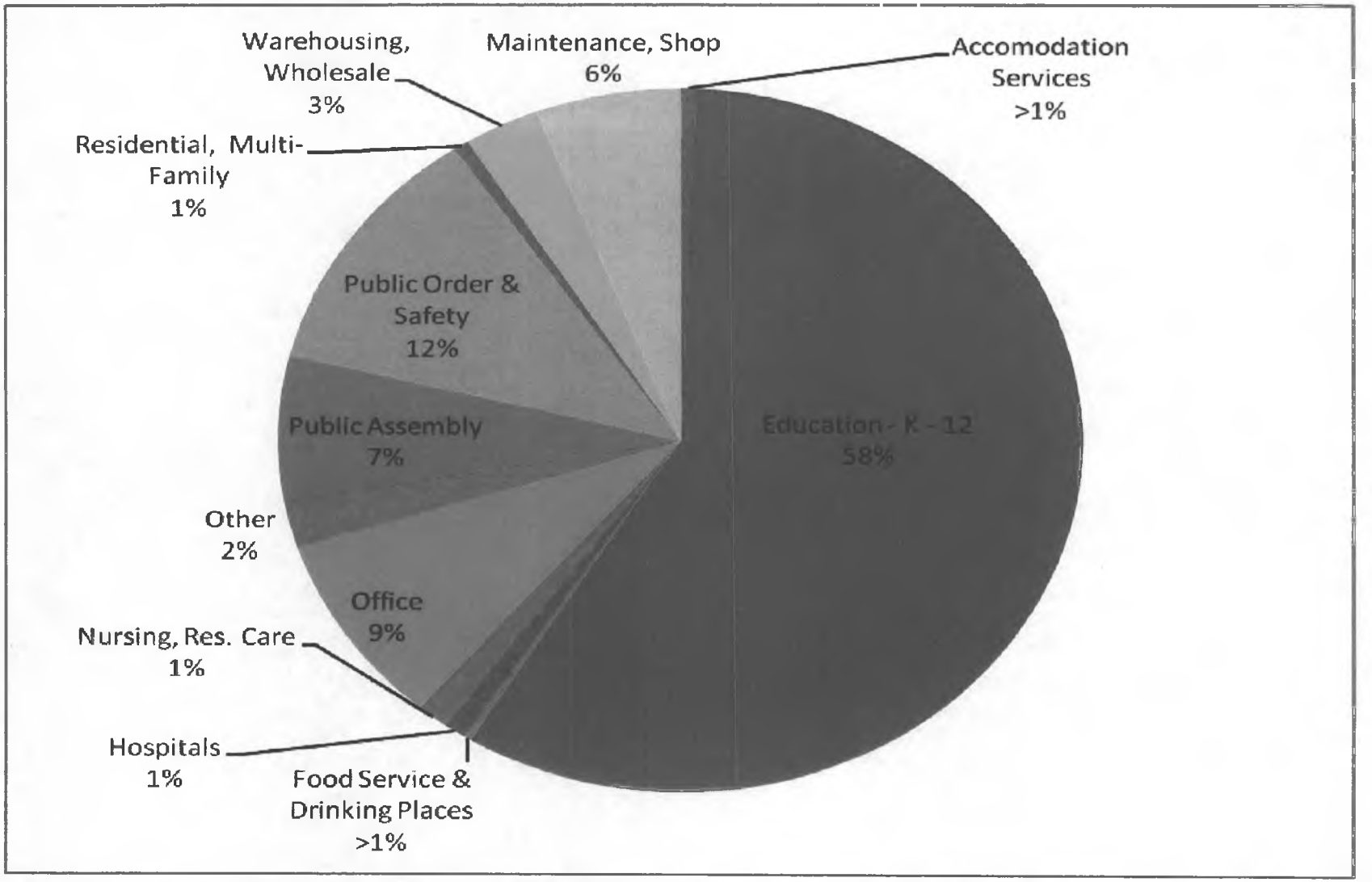
- >1,200 buildings benchmarked
- 327 buildings audited
- Over 40 engineers, auditors, and subcontractors utilized

Findings:

- Estimated energy use for all 5000+ public buildings statewide is $641 million
- Estimated annual potential savings $125 million

Alaska Housing
FINANCE CORPORATION

Public Facilities Audits



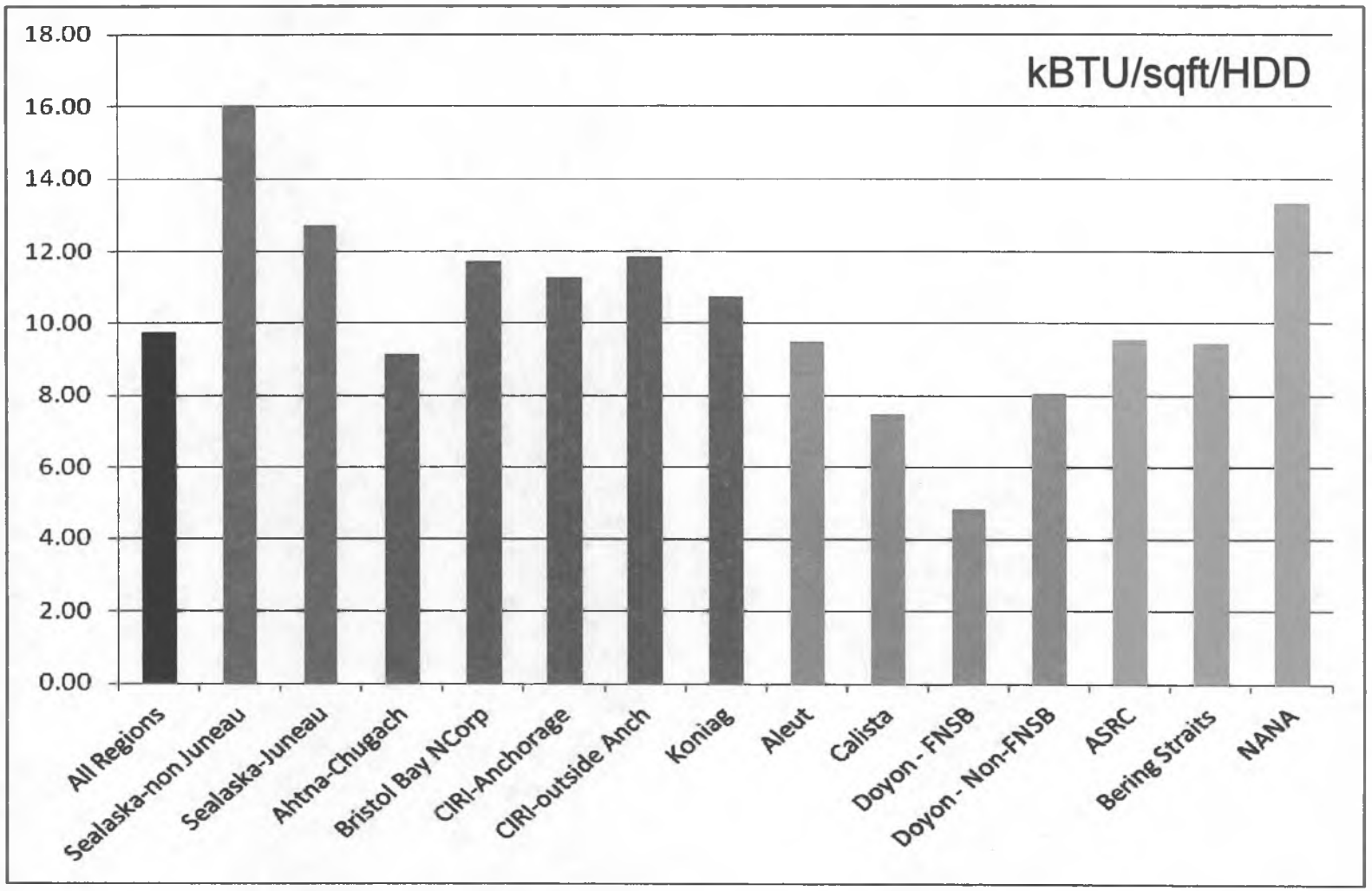
Alaska Housing
FINANCE CORPORATION

School Energy Audits

- 184 of 479 public schools audited (38%)
- $34.3 million annual energy costs of audited facilities
- Estimated annual energy costs for all schools is $90 million
- Fuel costs range from $13 to $97 per MMBTU

Alaska Housing
FINANCE CORPORATION

School Energy Use (not cost)



Energy use (EUI) per climate factors of audited schools by ANCSA region

Alaska Housing
FINANCE CORPORATION

School Energy Audits

*Summary of **Major Conclusions**:*

1. Identified potential savings averaged $31,000 to $51,000 per school, or about 30% of their energy costs.

2. There is a significant range of energy efficiency levels between schools of the various ANCSA regions.

3. Building size and age, price of energy and regional climate do not appear to have significant impacts on these differences.

4. Many of these schools are operated as if the school was fully occupied at all times.

5. Many communities have experienced declining enrollment, thus their school was designed for more students than currently attend.

6. Operator training and level of preventive maintenance are significant factors in energy use.

Alaska Housing
FINANCE CORPORATION

*Summary of **Major Recommendations**:*

Building operations:

1. Operate heat, ventilation and lights only during school hours. After hour users have reduced services.
2. Track energy use and compare.
3. Ensure the amount of heated building space and ventilation rates are in line with current occupancy.
4. Require building commissioning and retro-commissioning.

Administrative:

1. Get an energy audit and implement recommendations
2. Develop and implement an energy policy & management plan with specific goals and deadlines.
3. Provide training to facility operators and technicians.

Design:

1. Consider consolidation of other community functions into schools such as post offices, public offices, clinics, etc.
2. Consider Life Cycle Cost when funding new facilities and remodels.

Alaska Housing
FINANCE CORPORATION

Estimated energy costs

$90,000,000

per year = all schools

Alaska Housing
FINANCE CORPORATION

CASE STUDY

Energy Savings Performance Contract

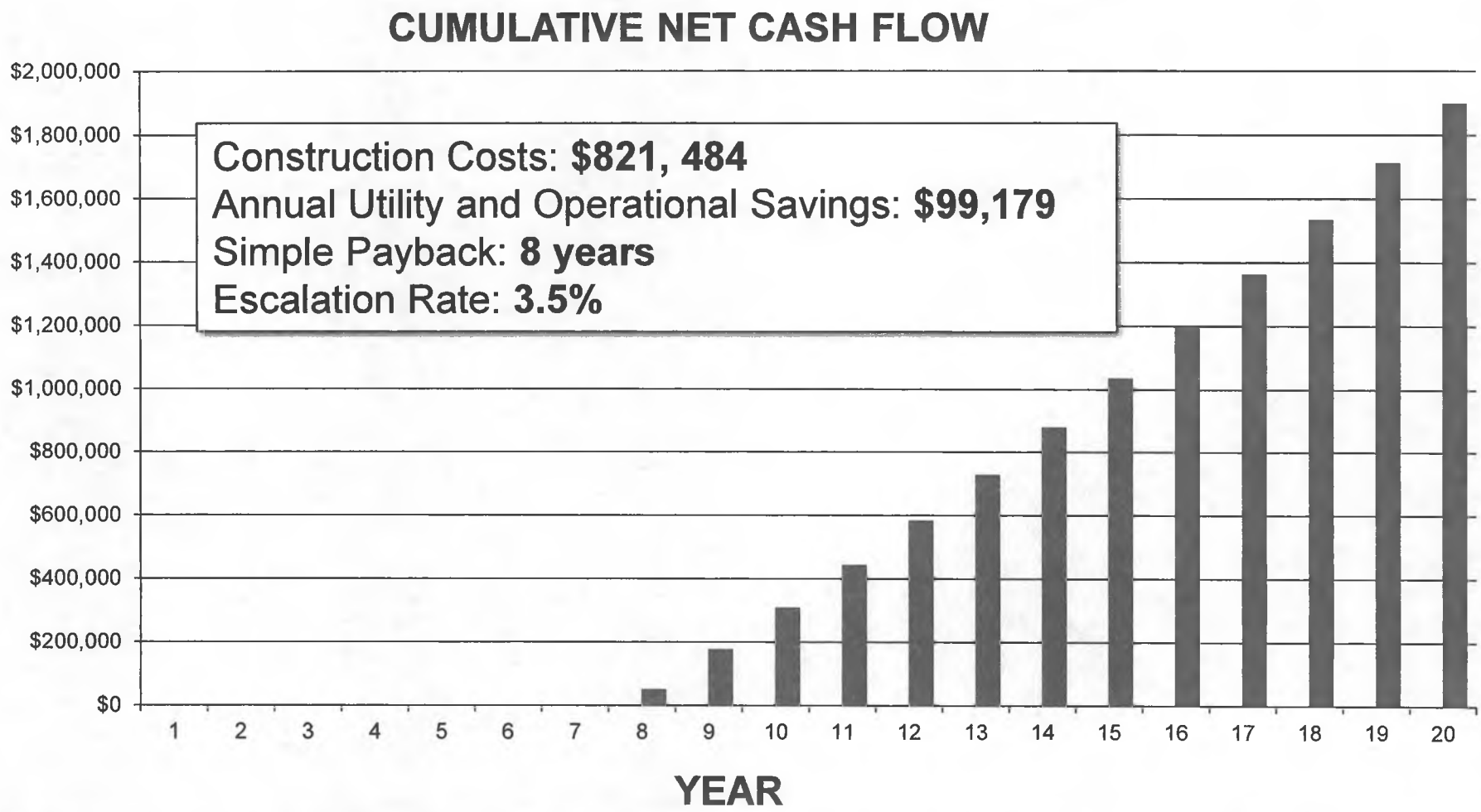
CITY OF HOMER

- 2011 Audit & Energy Services Proposal
- 16 public buildings in Homer
- Prepared by Siemens Industry, Inc.
- Identified opportunities for long term energy cost savings

Flickr Creative Commons

CASE STUDY

Alaska Housing
FINANCE CORPORATION



Source: Siemens, 2011.

Alaska Housing
FINANCE CORPORATION

AEERLP

Alaska Energy Efficiency Revolving Loan Program

$250m available for energy efficiency improvements for:

-Schools	-State facilities
-University of Alaska	-Municipal facilities

Savings from energy efficiency improvements may be used to pay off the loan

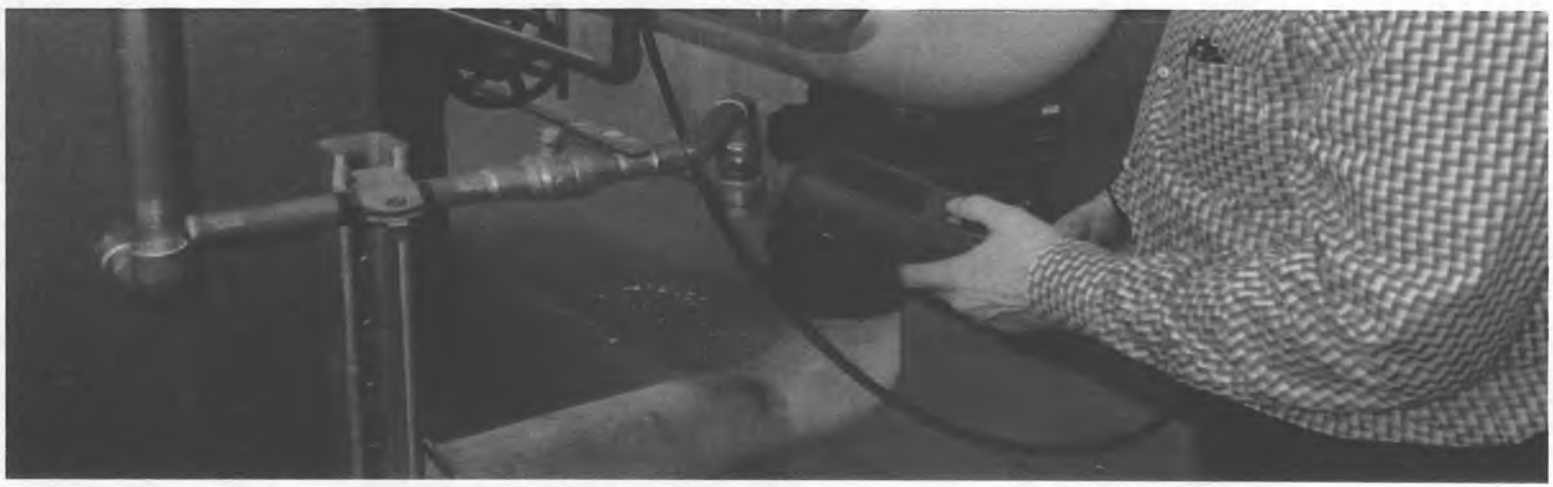


Photo Credit: CAEC

Challenges

Loan is a long-term commitment, budgets are year to year.

Budgets are unknown more than a year in advance, but are asked to commit 10-15 years out.

Alaska Housing
FINANCE CORPORATION

Challenges

Will EED formula funding be reduced to match reduced utility bills?

This would limit the school's ability to use those funds to repay the loan. After the loan, these funds could be available for deferred maintenance.

Challenges

Split incentive – City & Borough Owned Schools

While renovation work can lower the utility bills for a school, the loan payments are made by the building owner which is the city or borough.

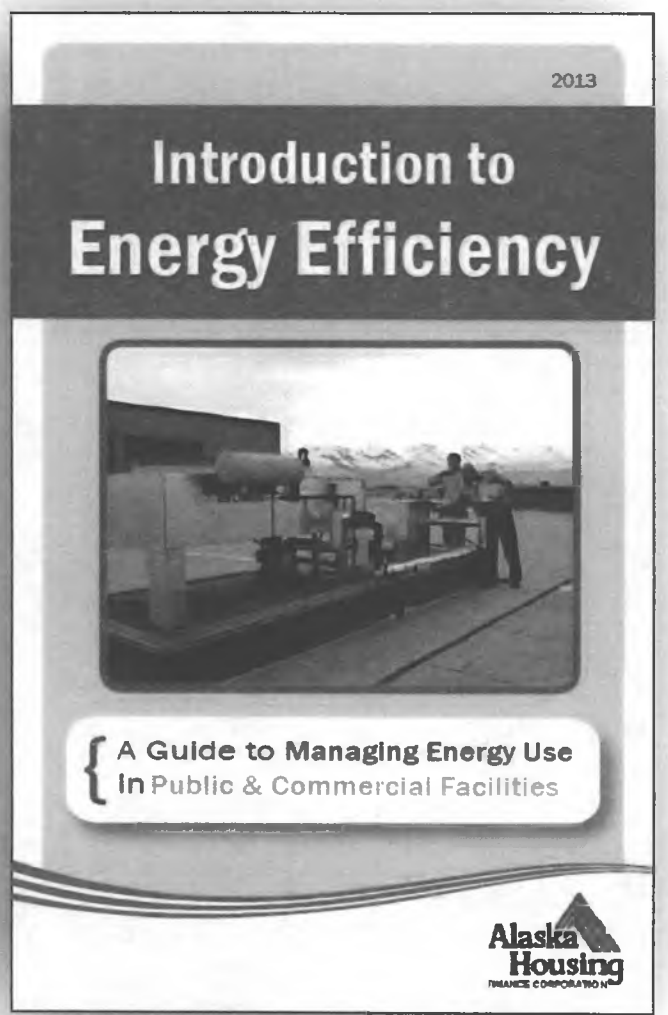
Challenges

Energy Performance Contracts and Energy Services Companies may be unfamiliar to school decision makers

AHFC's revolving loan fund uses these new approaches as a way for schools to get work done without an upfront capital outlay.

AHFC Assistance Available

- Retrofit Energy Assessment for Loan (REAL)
  - Provides technical assistance to potential borrowers.
- AHFC 10-module training series
  - Target audiences include school boards and city/borough councils.
- Reports & guides



Alaska Housing
FINANCE CORPORATION

Questions?