JOINT ASSEMBLY SCHOOL BOARD FACILITY PLANNING COMMITTEE
THE CITY AND BOROUGH OF JUNEAU, ALASKA

APRIL 7, 2022 12:00 PM
ZOOM WEBINAR
PLEASE CLICK THE LINK BELOW TO JOIN THE WEBINAR:
HTTPS://JUNEAU.ZOOM.US/J/84264153679 WEBINAR ID: 842 6415 3679 1-253-215-8782

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF AGENDA

IV. APPROVAL OF MINUTES

A. January 13, 2022 - Regular Meeting

V. AGENDA TOPICS

A. Demographic Trending of Facility Planning

B. CBJ and JSD Facilities Spending: Maintenance and Bond Debt

C. Nest Steps

VI. FUTURE MEETING DATE

VII. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 36 hours prior to any meeting so arrangements can be made for closed captioning or sign language interpreter services depending on the meeting format. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.org

Joint Assembly School Board Facility Planning Committee
DRAFT MINUTES – REGULAR MEETING
Zoom Webinar
January 13, 2022

I. CALL TO ORDER

The meeting was called to order at 12:10 PM.

Members Present: Chair Greg Smith, Brian Holst, Elizabeth Siddon, Emil Mackey, Wade Bryson, and Mayor Weldon, Ms. Triem was unable to attend. Also in attendance, Amber Frommherz-School Board and Alicja Hughes-Skandijs-Assembly.

City & Borough of Juneau Staff Members Present: Katie Koester, Robert Barr, Janet Sanbei, Rorie Watt, Jeanne Rynne, Beth McEwen, Jeff Rogers, and Robert Palmer.

School District Staff Members Present: Cassee Olin.

II. WELCOME AND INTRODUCTION ROLL CALL

III. APPROVAL OF AGENDA

No objection, Agenda approved.

IV. ITEMS FOR ACTION

None.

V. INFORMATION ITEMS

A. Roles and Responsibilities: Charter Review (13.8 & 13.9)

Katie Koester gave a brief introduction to the responsibilities and goals of the Committee. She stated the Committee is currently involved in meeting goals of the Committee through their own responsibilities within their organizations.

Mayor Weldon gave her reasons for being sure this Committee meets at this time, prior to establishing the City Budget. She wants to be sure the maintenance needs of the school district are included within the budget. She stated she is trying to make sure the two entities come together regarding deferred maintenance needs. All members need to be aware of the requirements prior to the Assembly starting the budget process.

There was discussion regarding school bond maintenance and funding. The Committee further discussed the list of deferred maintenance projects and the process for getting them on the deferred maintenance list. There seems to be a mismatch as to the number of projects needing to be completed, and the amount of funding that is received in order to complete projects.

B. Status of Bond Funded Roof Projects

Ms. Koester gave a brief update as to the Gastineau School Roof. She stated Riverbend was awarded earlier in the week at $2.3M. The cost estimate DZ Roof above the original cost estimate established 2 years ago but is consistent with projects of similar scope. This price has eaten into the $5M bond available. Dzantik'i Heeni (DZ) needs an additional $1.3M in order to go forward with the bid. This estimate price has been discussed with City administration and they desire to move forward with bidding this project. This request will be going to the Assembly at the February Finance Committee Meeting.

Discussion included questions to the actual total costs of the Riverbend and DZ projects.

C. Review Deferred Maintenance List

Ms. Koester stated she would like to inform the Committee of the Deferred Maintenance needs of the School District. She turned the presentation over to Ms. Olin, Director of Administrative Services for the School District.

Ms. Olin gave the Committee a brief explanation of the smaller maintenance projects. She stated these are the smaller projects which are listed in a needs order, based upon the $1M allotted to the School District each year. The small project needs within the district actually total more than $34M in Deferred Maintenance needs.

Discussion regarding how the $1M yearly amount has been spent to this point. It was stated that maintenance of buildings is difficult to keep up with, and the district is currently adding more to the list than is actually being repaired. The buildings are aging, but the funds available to repair buildings and facilities is limited and repairs are added to the list per the most needed project. What is really missing from this financing is the State's reimbursement portion.

D. Major Maintenance and Renovation

Ms. Koester explained she wanted to bring to light the importance of major maintenance projects. The two projects listed below are on the Legislative Priority Lit.

- Marie Drake School
- Mendenhall River Elementary School

Ms. Olin gave a brief explanation to the renovations required at these buildings.

Mayor Weldon asked that we meet again and discuss these projects at the next meeting. She feels these are a bigger discussion.

VI. PUBLIC PARTICIPATION

None.

VII. FUTURE MEETING DATES

The chair will work with the Committee and the Clerk's Office to come up with a future date for the next meeting.

VIII. ADJOURNMENT

The meeting adjourned at 1:03 PM.

City and Borough of Juneau
City & Borough Manager's Office
155 South Seward Street
Juneau, Alaska 99801
Telephone: 586-5240| Facsimile: 586-5385

TO: Borough Assembly
Board of Education

DATE: April 4, 2022

FROM: Rorie Watt, City Manager

RE: Demographic Trending and Facility Planning

At the joint meeting on March 7, 2022, between the Juneau School District Board of Education and the Borough Assembly, the two bodies briefly touched on the topic of demographic trending. I advise the bodies to take a deeper dive on this issue.

Attached is the enrollment forecast for October 2022, prepared by Gregg Erickson of Erickson and Associates. Erickson has provided Juneau School District (JSD) with forecasting for nearly a decade and those forecasts have been quite accurate (excepting the COVID induced volatility). This current forecast should cause all policy makers to sit up and take notice. While the forecasts are mostly used for planning, budgeting and staffing of the upcoming school years, Erickson also provides ten-year projections. The entire report is attached, but a high level summary includes the following projections:

Year	Facility Type	Enrollment
2022	Elementary	1860
2032	Elementary	1197
	Change:	Loss of 663 Students
2022	Middle School	1012
2032	Middle School	734
	Change:	Loss of 278 Students
2022	High School	1353
2032	High School	1104
	Change:	Loss of 249 Students

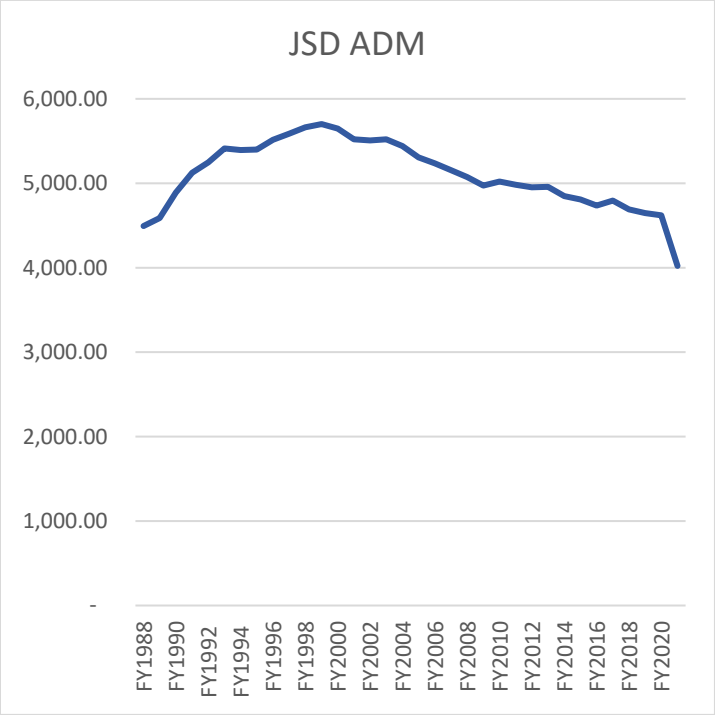
As shown in the annotated mid-case chart, Erickson predicts significant population change. Some of his estimates are based on hard cold facts (2nd graders today exist and will be Seniors in 10 years). Some predictions are founded on other factors (is our population shrinking or growing, and if so how fast, rates of in and out migration, etc.) and predictions of new parenting (while 2032 2nd graders haven't been born yet, their parents are alive and as our median age increases or decreases, it is not unreasonable to guess at community birth rates). In sum, predicting next year is a whole lot easier than ten years from now.

For a different and less precise view of demographic trending, one could also consult with the State Demographer (an employee of the Department of Labor Research Division). The Demographer uses census data and produces public data in 5-year age brackets that do not exactly correspond to school ages, but the data can easily be used to infer predicted changes in school age population. One summary:

Year	Juneau Age 5-19 Population
2020	5982
2030	5353

Percent Decline: 11-12%

A third method for looking at trending is to look at ADM – Average Daily Membership, the metric used by the State Department of Education and Early Development for the purposes of school funding. The below graph shows 30 years of data including a decline from a peak of 5701 students in 1999 dropping to 4620 in the last pre-pandemic impacted year of 2020.



At my recommendation, the Assembly and School Board contemplated demographic trending in 2016/17 and for a time received information and discussed the issues. The bodies felt that no action at that time was necessary.

We are now five years later, the population trends continue and there still is no funding available from the State for new renovation projects. From an operational/delivery of education stand-point, it does not seem like there is cause to react strongly to this data. The population changes are happening year by year and the District adjusts its operations accordingly. However, from a capital project renovation perspective, it is much more timely to discuss this data and the projections. Both Marie Drake and Mendenhall River continue to age. If the projections are accurate, and there is not much reason to doubt them, then it is more appropriate to add potential school closure into the mix of the discussion about facility renovations. This will be a difficult topic to discuss.

Recommendation:

The Assembly and School Board should prioritize this discussion and discuss how/when to analyze our current situation and to review the work from five years ago.

Grade Level Oct. Enrollment
2020-21 Actual
and
2022-2032 **Mid-Case** Projection

	Actual		Projection								
	2020	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Kindergarten	229	288	296	288	275	249	238	238	229	201	188	181	181
Grade 1	310	279	297	293	288	272	247	236	237	230	207	183	178
Grade 2	299	335	287	293	292	285	269	245	235	238	236	202	180
Grade 3	280	325	345	284	292	289	282	267	243	236	245	230	198
Grade 4	318	293	334	341	283	290	286	280	266	244	243	238	226
Grade 5	284	337	301	330	340	280	287	284	278	267	251	236	234
Grade 6	318	292	347	298	329	337	277	284	282	279	274	244	232
Grade 7	301	353	301	343	297	326	334	275	283	283	287	267	240
Grade 8	318	311	364	297	342	294	323	331	274	284	291	280	262
Grade 9	337	342	321	360	297	339	291	320	329	274	292	284	275
Grade 10	310	342	352	317	359	294	336	289	319	330	282	284	279
Grade 11	339	319	352	348	316	355	291	333	287	320	340	275	280
Grade 12	321	362	328	348	347	313	352	288	331	288	329	331	270
Total	**3,964**	**4,178**	**4,223**	**4,141**	**4,057**	**3,923**	**3,813**	**3,670**	**3,594**	**3,475**	**3,465**	**3,234**	**3,036**

Note: Preschool enrollment not included.

Erickson & Associates **2022**

K, 1, 2 in 2022 become 10-12 in 2032, accounting for comparative decrease of 203 students between these cohorts. These children are already in JSD.

Erickson Predicts 341 fewer K-2 children from 2022-2032. These children have not been born yet.

ERICKSON & ASSOCIATES
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22 February 2022

Ms. Cassee Olin
Director of Administrative Services
Juneau School District
10014 Crazy Horse Drive
Juneau, Alaska 99801

BY EMAIL TO: cassee.olin@juneauschools.org
Copy by U.S. Mail

Re: Enrollment Forecast for Oct. 2022
Dear Ms. Olin:

This letter constitutes the *ERICKSON & ASSOCIATES* Juneau School District (JSD) enrollment forecast for 2022 and beyond.

Summary

Our *Mid-case* forecast issued in early 2021 projected that JSD would see 4,186 students enrolled in October 2021, an increase of 5.6 percent from the prior year. Actual enrollment increased 5.4 percent, to 4,178. The forecast error was 0.2 percent, making it the third smallest forecasting error in the 13 years for which we have forecast records. This contrasts with the 13 percent error in our forecast for October 2020, which was confounded by the COVID-19 pandemic and resulting social disruption, including closing classrooms and the shift of most pupils to remote learning.

JSD enrollment declined in 14 of the last 17 years; the district now has 20 percent fewer students than in 2004 (see **Figure 1** on the following page). The enrollment decline has been driven by demographic factors – principally declining births. We believe this trend is likely to persist.[1]

As in previous reports, we applied the ERICKSON & ASSOCIATES cohort-component model to the prior year's grade-level enrollments to produce the ***Mid-Case*** forecast.

The principal uncertainty in last year's forecast was whether, when, and how much of the pandemic-related enrollment loss would be recovered. We believe the majority of

[1]Juneau births declined 12 percent from 2018 to 2019, and dropped a further 6 percent in 2020. National data show that births and birth rates have been declining for more than a decade (see https://www.cdc.gov/nchs/data/vsrr/vsrr012-508.pdf).

the pandemic's direct effect on enrollment was recovered in 2021, with most of the remainder to be regained in 2022.

The ***High-Case*** forecast is our estimate of the 90th percentile below which all possible enrollment outcomes would fall. The ***Low-Case*** estimates the 10th percentile of possible enrollment outcomes.

We recommend the *Mid-Case* forecast for most fiscal and facility planning purposes. Compared with Oct. 2021 enrollment, the *Mid-Case* forecast projects an increase of 45 students at the Oct. 2022 counting period.

Figure 1 shows the *High*, *Mid*, and *Low* projection in the context of historical enrollments since 2004. Enrollments are expressed in terms of percentage differences from the Oct. 2021 enrollment. The chart includes the *High*- and *Low-Case* forecasts, showing the uncertainty surrounding future enrollment.

Figure 1

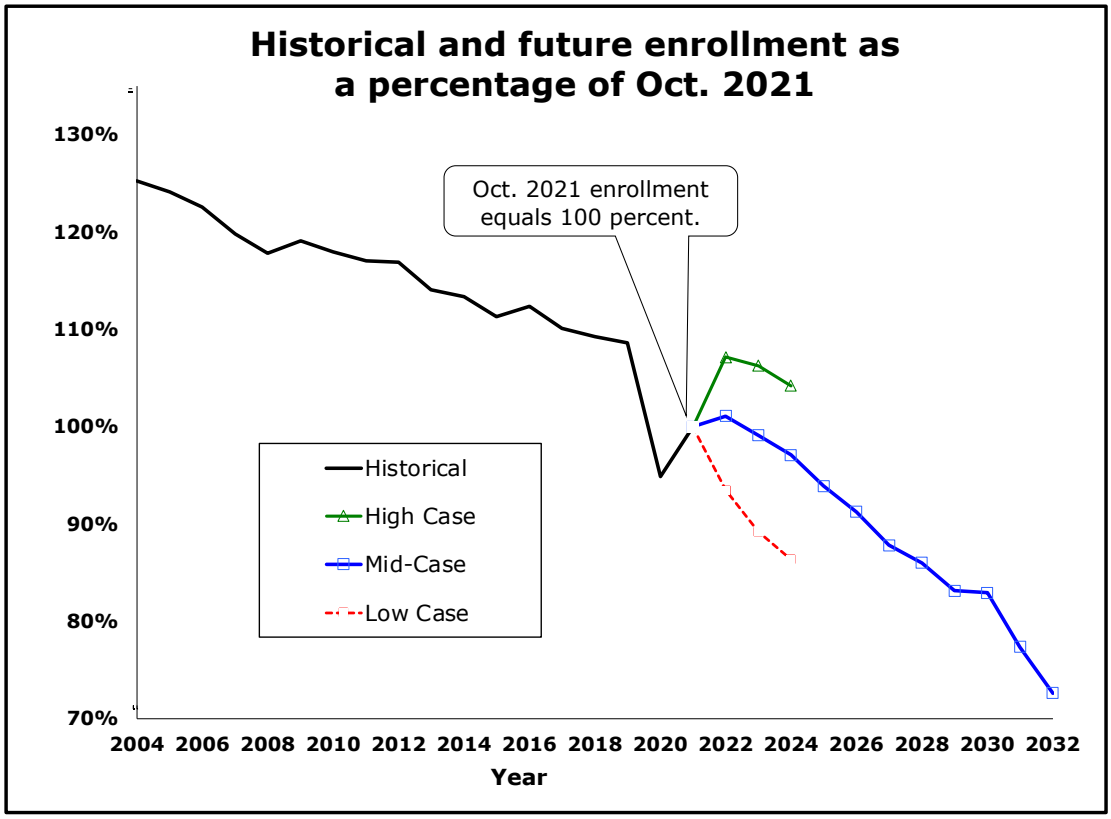

Figure 2 (next page, along with **Figure 3**) tabulates actual enrollment in 2020-21, and the projections for 2022-32. **Figure 3** shows grade-level enrollments under the *Mid* forecast.

Figure 2

JSD Enrollment

2019 to 2031

Year	Low	Mid	High
Actual			
2020		3,964	
2021		4,178	
Forecast			
2022	3,906	4,223	4,476
2023	3,727	4,141	4,439
2024	3,611	4,057	4,353
2025	*	3,923	*
2026	*	3,813	*
2027	*	3,670	*
2028	*	3,594	*
2029	*	3,475	*
2030	*	3,465	*
2031	*	3,234	*
2032	*	3,036	*

* Not forecasted.
Note: Does not include preschool enrollment.

Figure 3

Grade Level Oct. Enrollment
2020-21 Actual
and
2022-2032 **Mid-Case** Projection

	Actual		Projection										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Kindergarten	229	288	296	288	275	249	238	238	229	201	188	181	181
Grade 1	310	279	297	293	288	272	247	236	237	230	207	183	178
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Total	**3,964**	**4,178**	**4,223**	**4,141**	**4,057**	**3,923**	**3,813**	**3,670**	**3,594**	**3,475**	**3,465**	**3,234**	**3,036**

Note: Preschool enrollment not included.

Erickson & Associates **2022**

Methodology

Historical data and prior forecasts

Our first step in preparing this forecast was to update the historical data on enrollments and prior grade level forecasts. **Figure 4** (below) shows the accuracy of *Mid-case* forecasts over the last 12 years. Grade level forecasts have been less accurate, particularly for kindergarten, 10th, 11th, and 12th grades. See **Figure 5** (on page 5).

Figure 4

Accuracy of Mid-case Forecasts

Forecast for...	Source	Forecast issued 1 year earlier (enrollment)	Actual enrollment (enrollment)	Error (enrollment)	Error (percent)
Oct-09	Reaume	4,856	4,976	(120)	(2.4%)
Oct-10	Reaume	4,948	4,929	19	0.4%
Oct-11	Reaume	4,892	4,888	4	0.1%
Oct-12	Reaume	4,855	4,885	(30)	(0.6%)
Oct-13	Erickson	4,878	4,766	112	2.3%
Oct-14	Erickson	4,719	4,736	(17)	(0.4%)
Oct-15	Erickson	4,657	4,651	6	0.1%
Oct-16	Erickson	4,527	4,695	(168)	(3.6%)
Oct-17	Erickson	4,643	4,601	42	0.9%
Oct-18	Erickson	4,491	4,564	(73)	(1.6%)
Oct-19	Erickson	4,503	4,537	(33)	(0.7%)
Oct-20	Erickson	4,498	3,964	534	13.5%
Oct-21	Erickson	4,186	4,178	8	0.2%

Figure 5

Percentage Errors in Mid-Case Grade Level Forecasts

=[(mid-forecast) - (actual)] / (actual)

Forecast for ...	K	1	2	3	4	5	6	7	8	9	10	11	12	Error in total enrollment
Oct-09	-13%	5%	2%	-5%	-4%	-1%	0%	0%	1%	4%	-3%	-7%	-7%	(2.4%)
Oct-10	13%	4%	4%	3%	-2%	-3%	-2%	-2%	-6%	9%	1%	-15%	7%	0.4%
Oct-11	3%	-5%	0%	-1%	-7%	0%	1%	-2%	-4%	11%	-6%	-10%	25%	0.1%
Oct-12	-11%	0%	0%	0%	3%	-4%	-3%	0%	-1%	-2%	-1%	0%	10%	(0.6%)
Oct-13	-8%	5%	3%	4%	3%	4%	4%	4%	7%	0%	3%	5%	-2%	2.3%
Oct-14	-3%	2%	-3%	-4%	-2%	4%	0%	0%	-1%	0%	2%	15%	-13%	(0.4%)
Oct-15	5%	-2%	-1%	2%	3%	0%	2%	-2%	-3%	4%	1%	-1%	-7%	0.1%
Oct-16	-5%	-2%	1%	0%	-2%	-5%	-3%	-2%	-1%	-1%	-6%	3%	-22%	(3.6%)
Oct-17	10%	1%	1%	-3%	3%	-1%	-5%	2%	-3%	-1%	5%	4%	0%	0.9%
Oct-18	-10%	-3%	-4%	3%	-2%	6%	4%	-1%	-3%	-6%	0%	2%	-4%	(1.6%)
Oct-19	-3%	1%	-3%	-4%	-2%	-2%	-2%	-2%	4%	4%	1%	-1%	-3%	(0.7%)
Oct-20	49%	20%	15%	16%	12%	11%	14%	11%	13%	11%	3%	7%	4%	13.5%
Oct-21	-6%	6%	1%	0%	3%	-1%	2%	-4%	2%	2%	1%	-1%	-3%	0.2%
Average Absolute Error, Oct-09 to Oct-21	**11%**	**4%**	**3%**	**3%**	**4%**	**3%**	**3%**	**2%**	**4%**	**4%**	**3%**	**5%**	**12%**	**2.1%**

Dark pink indicates absolute errors over 10 percent; **light pink** indicates absolute errors of between 5 and 10 percent.

Cohort component ratios

The single best predictor of enrollment in any grade in any year has been the prior year's enrollment in the next lower grade. Despite the disruptions of the pandemic, the ERICKSON & ASSOCIATES forecasting model has been and remains based on these cohort-component relationships, namely, the historical ratios between the numbers of students in each cohort as they transition through the grades. A transition ratio of 1.00 means the enrollment was 100 percent of last year's enrollment in the prior grade.

We calculated transition ratios for each grade, in each of the 17 years, 2005 to 2021. Apart from outliers in 2020 and 2021, the pandemic years, annual averages for all grades clustered around 1.00, ranging from a low of 0.975 in 2013, to a high of 1.019 in 2010.[2]

Each year in preparing a new forecast we recalibrated the cohort-component model to include the latest year's transition ratios. Including 2020's unusually low ratios would introduce a downward bias to the projections. This bias is only partially offset by the high ratios in 2021.[3]

Forecasting future kindergarten enrollments

Because there is no grade before kindergarten, a different procedure is needed for forecasting kindergarten enrollments. In developing this procedure, we first calculated the ratios between annual Juneau births and kindergarten enrollments four,

[2] In 2020, the pandemic outlier year, the average grade-level transition ratio was 0.896, that is, the average grade level enrollment was 89.6 percent of prior-grade enrollment in 2019. In 2021 the average transition ratio was 1.071.

[3] To evaluate this bias, we ran the cohort-component model twice, first with the 2015-2021 ratios, and then with the 2015-2019 ratios (excluding 2020 and 2021). In the Technical Appendix we show the parameters and outcomes of these modeling runs, and the outcomes using other plausible forecasting models.

five, and six years later. Each year we update our historical birth and kindergarten enrollment data before applying statistical tests to determine the best predictor of future kindergarten enrollment. As in past years, the average of births five and six years earlier continues to be the best predictor.

For 2026 and beyond, births five and more years earlier either haven't been compiled or haven't yet occurred. For these years we use a forecast of births based on Alaska Dept. of Labor and Workforce Development projections.[4]

Forecasting economic factors

Pandemic-related factors

In forecasts issued before 2020 the principal uncertainties were the future of the Juneau economy and the linkage between the economy and enrollment. In our forecast for Oct. 2021, those uncertainties were overwhelmed by the issue of whether, when, and how much of the pandemic-related enrollment loss would be recovered.

We defined the pandemic-related enrollment loss as the difference between the actual Oct. 2020 grade level enrollment and the *Mid-Case* enrollment we predicted for that year in our prior forecast. Following Bayesian statistical theory, we set the *Mid-Case* forecast for Oct. 2021 enrollment at 50 percent of what we calculated to be the pandemic-related enrollment loss.[5] This proved a propitious approach: actual JSD Oct. 2021 enrollment differed from the forecast by less than 0.2 percent.

To help in understanding the effects the pandemic may have on future enrollment we tabulated the enrollment history over the last ten years in Anchorage, Fairbanks and Juneau, and in three smaller districts, Ketchikan, Sitka and Nome. All six districts experienced declines in 2020, the first year of the pandemic, but Fairbanks and Juneau suffered the biggest percentage losses.

Figure 6 (on the following page) shows the enrollment loss in 2020 as a percentage of 2019 enrollment. It is unclear why Juneau's loss was so much larger in percentage terms than experienced in Ketchikan and Sitka, the two other Southeast Alaska communities with significant cruise ship tourism.

As indicated in **Figure 7** (also on the following page), all but Nome had regained some of these losses by the time of the Oct. 2021 enrollment count. But the recovery, like the declines, was uneven, with Juneau lagging far behind Sitka, Fairbanks, Ketchikan and even Anchorage. Juneau's greater loss and smaller recovery is likely important, but identifying the underlying causes requires analysis of the economy and demographics of the other communities, an analysis beyond the scope of this report.

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[4] The Alaska Dept. of Labor and Workforce Development doesn't forecast births by individual years but predicts an annual average in five-year increments. See http://live.laborstats.alaska.gov/pop/projections.cfm .

[5] This follows a method of statistical inference first described by Thomas Bayes in which a degree of belief is rooted on prior knowledge of conditions that might be related to the event. In the absence of prior knowledge, contending hypotheses are given equal probability.

Figure 6

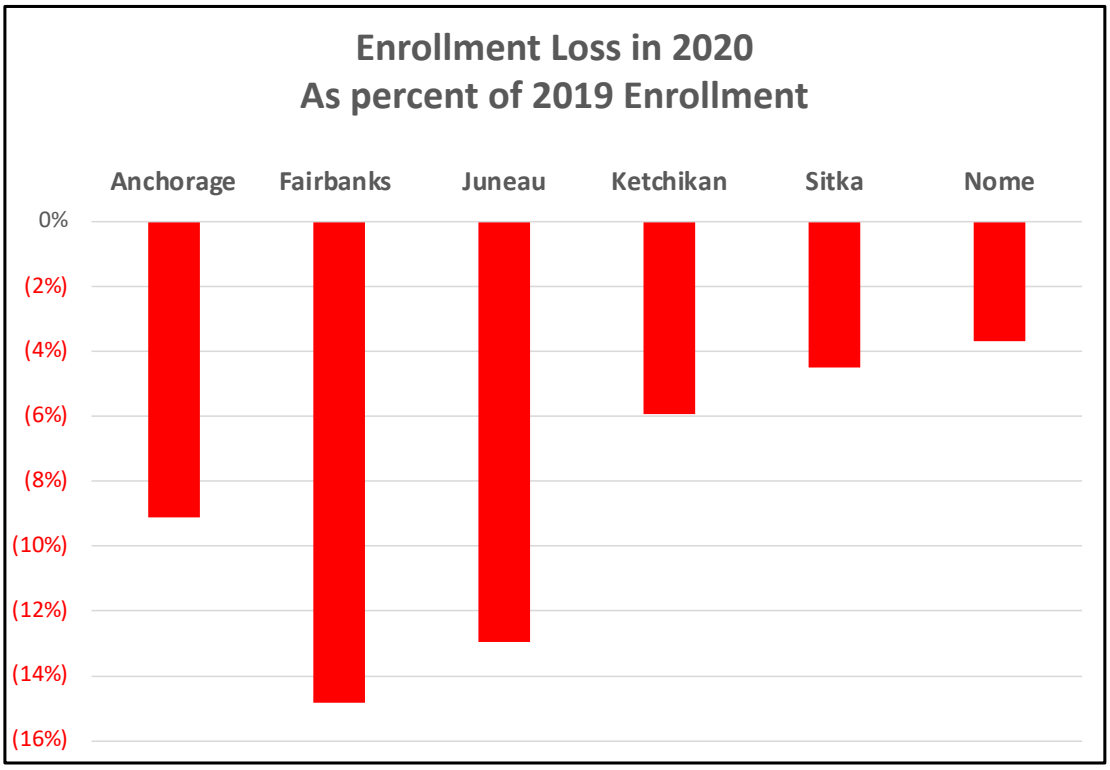
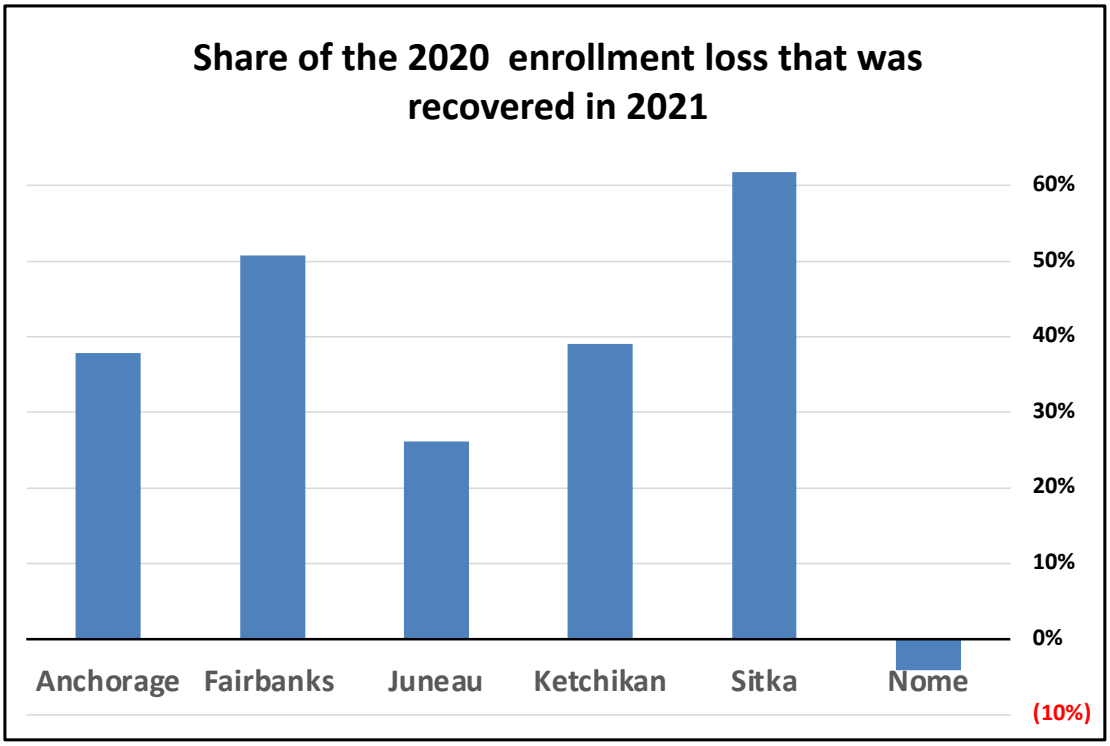


Figure 7

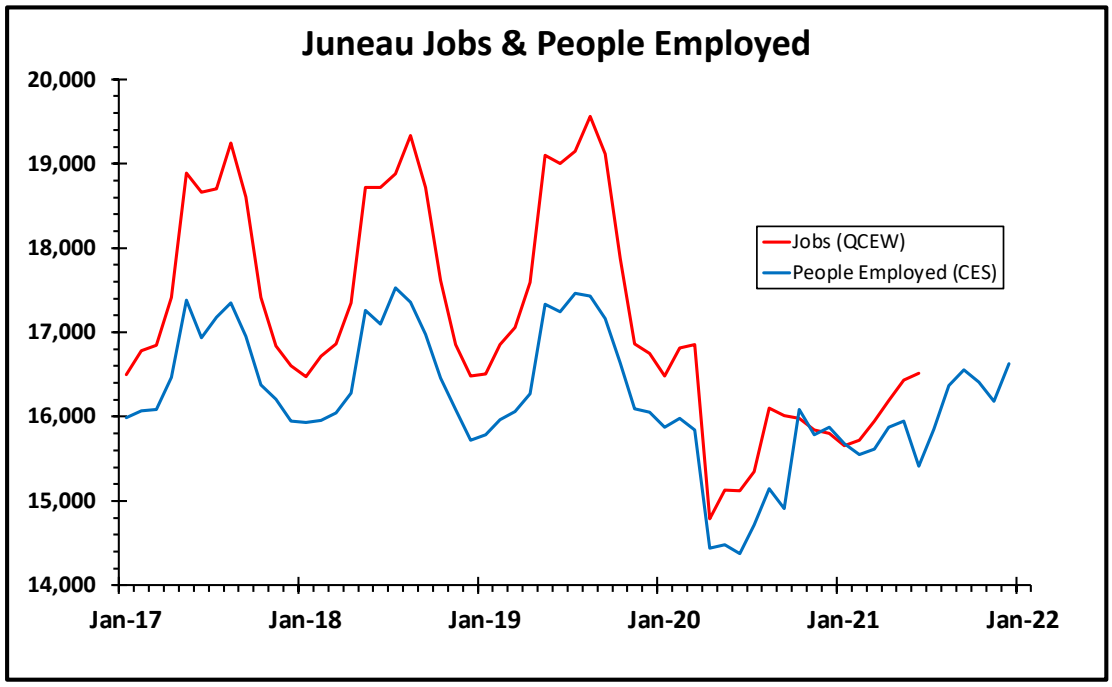


Employment trends

In the last full year before the pandemic Juneau's economy was growing, albeit slowly. Jobs as measured by the Quarterly Census of Employment and Wages (QCEW) grew 1.3 percent, year-over-year. The number of people working as measured by Current Employment Statistics (CES) grew 0.4 percent.[6]

As **Figure 8,** below, shows, economic data continue to reflect pandemic-related disruptions, including interruption of the usual seasonal employment pattern. In summer of 2019, Juneau counted 10 percent more jobs being worked than there were people working. In summer of 2021, the number of jobs and people at work were almost equal, likely due to the cut back in cruise ship visits, and reduced opportunity for residents to find second seasonal jobs in the visitor industry.

Figure 8



Notwithstanding the loss of summer cruise ship trade, the Juneau economy in 2020 and 2021 held up quite well. According to CES data, more Juneauites were working during November and December 2021 than the average for those months in 2017 - 2019 (see **Figure 9**, on page 9.

The apparent strength of the Juneau economy outside of the tourism sector is likely related to the influx of federal aid. As commentator Tim Bradner noted in 2020,

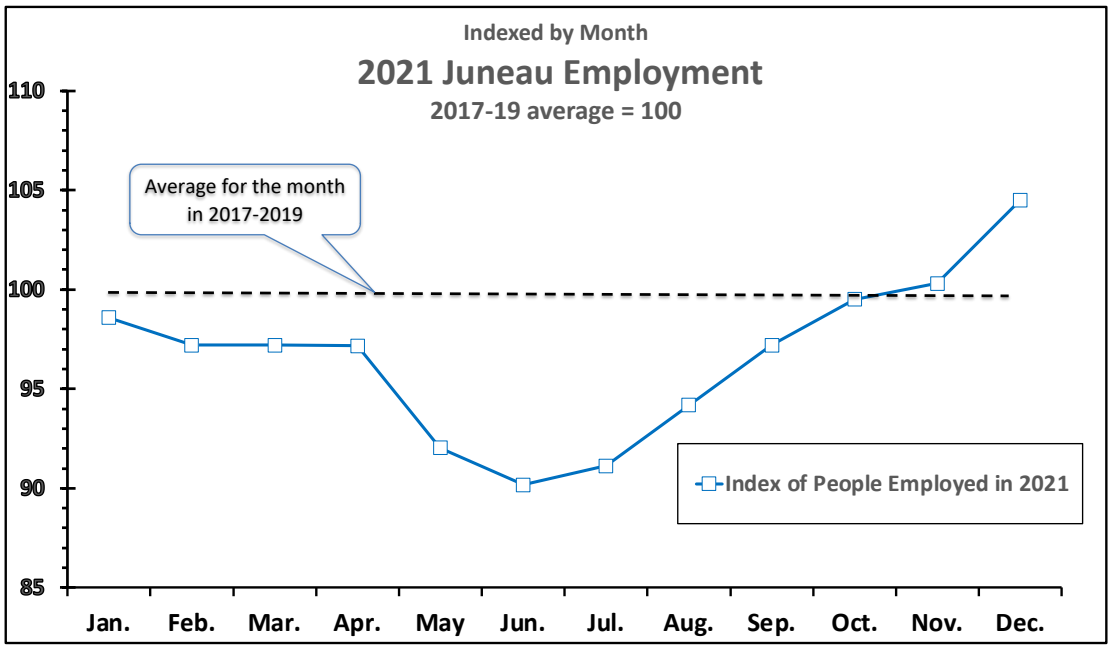
> Federal aid to businesses and individuals in the second and third quarters of 2020, which were affected by the pandemic, more than offset losses in personal income, according to recent data

[6] Because people can hold more than one job, the number of jobs in the QCEW census usually exceeds the number of people at work. CES estimates of people at work are based on a sample, are vulnerable to sampling errors, and are often revised. The advantage of the CES data is its timeliness – preliminary numbers are available by the end of the following month. QCEW monthly data is not available for three to nine months after the month ends.

> from the U.S. Bureau of Labor Statistics. This is likely to continue into 2021 with the arrival of more federal money in the pandemic relief bill agreed on by Congress in late December [2020].[7]

Bradner's prediction for 2021 appears to have been borne out. In November 2021 Congress passed and the president signed the $1.2 trillion infrastructure bill that will provide further economic stimulus. How long federal support will continue and its impact on the Alaska and Juneau economies remains an important question.

Figure 9



Economic effects on enrollment

Other things equal, if the economy waxes or wanes, so does enrollment, but the relationship can be complex and changes from year to year. **Figure 10** (on the following page) shows the historical linkage between JSD enrollment and Juneau employment in the months preceding the October count period.[8]

The ratio of Juneau students to Juneau employment has generally declined, from 27.1 students per hundred jobs in 2008, to 23.3 per hundred in 2019. However, the enrollment-employment ratio swung dramatically during the pandemic. If Juneau's cruise ship sector revives in 2022, as we think probable, we expect the people employed numbers to grow faster than enrollment, pushing future ratios back toward their long-term trend.

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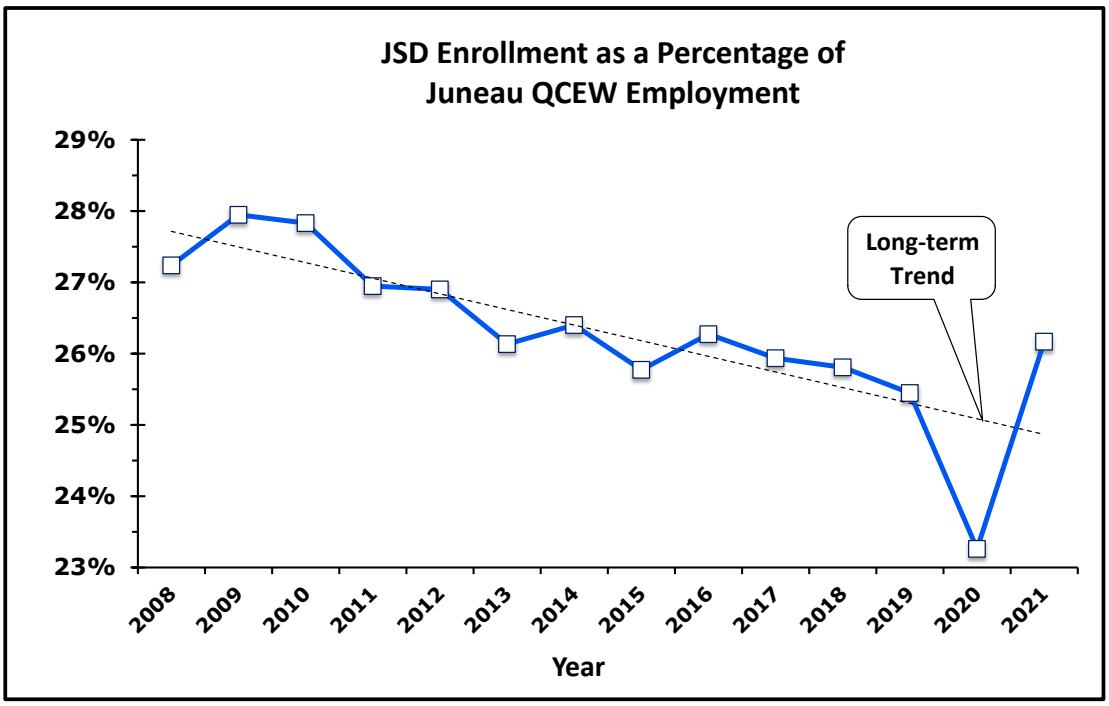
[7] Tim Bradner, "Analysis, 2020 was tough, 2021 will be better, maybe," *Mat-Su Frontiersman*, Dec. 30, 2020.

[8] Employment data are from QCEW (see *http://live.laborstats.alaska.gov/qcew*). QCEW data is available through June 2021. The datum for each year is the average monthly employment in the 12 months ending on June 30 of the named year. For example, the datum for 2021 represents the average number of jobs between July 1, 2020, and June 30, 2021. The enrollment datum is the Oct. enrollment in the named year.

Figure 10



In some previous forecasts we applied a subjective economic adjustment factor but we did not do that in this forecast. A subjective component nevertheless remains in even the most carefully prepared economic forecast. Others looking at the same data could reasonably reach different conclusions about the future of Juneau's economy and its effect on enrollment.

I once again appreciate the opportunity to assist the district in developing its enrollment forecast. I can be available to provide a briefing on the forecast to district officials or the Board of Education.

Sincerely,

Gregg Erickson

ERICKSON & ASSOCIATES

Attachment: Technical Appendix

Technical Appendix

Alternative forecasting models compared with 2021 actual and our *Mid-Case* forecast

Forecasting Model	Independent Variable(s)	Dependent Variable	Forecasted Oct. 2022 Enrollment	r^2	Difference between forecasted 2022 enrollment and 2021 actual	Difference from our Mid-Case forecast
First difference lagged; CES annual employment data using all available years **including** COVID impact years, 2020 and 2021.	% change in annual CES employment, t=-1 to t=0	% change in Oct. Enrollment, t=0 to t=+1	3,908	0.34	(270)	(315)
First difference lagged; CES annual employment data using all available years **except** COVID impact years, 2020 and 2021.	% change in annual CES employment, t=-1 to t=0	% change in Oct. enrollment, t=0 to t=+1	4,086	0.17	(91)	(137)
Baysian - Split difference betwwen Cohort-component and Oct. 2021 enrollment	Oct. 2021 enrollment; Oct. 2021 grade-level enrollments	Oct. 2022 enrollment	4200	n.a.	23	(23)
Mid-Case Forecast Cohort Component ("Demographics only") model using 2015-2019 transition factors	Oct. 2021 grade-level enrollments	Oct. 2022 grade-level enrollments	**4223**	n.a.	45	0
Trend of 2004 to 2021 enrollments	2004 to 2021 Oct. enrollments	2022 enrollment	4225	0.86	47	2
Cohort Component ("Demographics only") model using 2015-2021 transition factors	Oct. 2021 enrollment	Oct. 2022 enrollment	4227	n.a.	49	4
First difference lagged; QCEW annual jobs data (July to June) using all available years EXCEPT COVID impact years.	% change in June to July QCEW jobs, t=-1.5 to t=-0.5]	% change in Oct. Enrollment, t=0 to t=+1	4,313	0.68	135	90
Trend of 2004 to 2019 enrollments	2004 to 2019 Oct. enrollments	Oct. 2022 enrollment	4384	0.87	206	161

ERICKSON & ASSOCIATES Feb. 2022

Engineering & Public Works Department
Marine View Building, Juneau, AK 99801
907-586-5254 <phone>

MEMORANDUM

DATE: **April 1, 2022**

TO: **Greg Smith, Chair**
Joint Assembly & School Board Facility Planning Committee

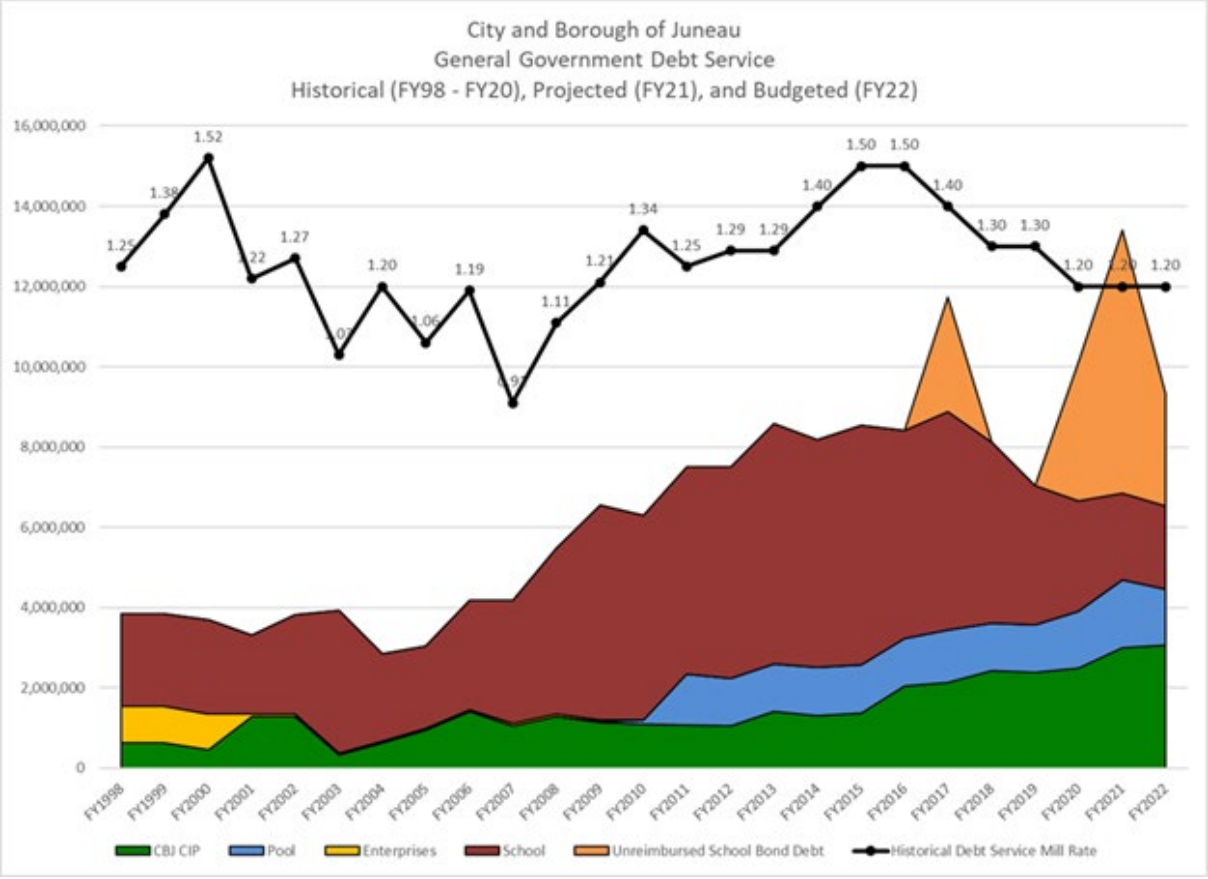
FROM: **Katie Koester, Engineering & Public Works Director**

SUBJECT: **Juneau School District (JSD) Facility Maintenance**

The purpose of this memo is to give an overview of CBJ and JSD spending on school district facilties and provide context for the committee as you consider next steps for meeting the facilty maintenance needs of the community.

Recenlty…
The Assembly recently approved $2M to JSD Deferred Maitenance to bring maintenance spending up to the minimum recommended industry standards and to supplement major deferred maintenance projects that are coming in higher than originally estimated due to current market escalation (DHMS roof and riverbend flooring). Additionaly, the City Manager has proposed an extension of the $1M annualy allocation to JSD deffered maintenance funding through the 1% sales tax extension that will be before voters in October 2022.

Facility Construction
Since FY2017, CBJ has spent $15.7M on unreimbursed school debt bond reimbursement. That, combined with typical school debt obligations have totaled $36.1M, or aproximatly $6M a year. In the chart below, everything in red and orange represents CBJ cost for school debt.



Maintenance

The industry standard is to spend 2%-6% of the replacement value of facilities on preventive maintenance.[1] A 5-year look back of preventive maintenance spending (operating expenditures) on JSD facilities shows that we are at approximately 50% of the recommended minimum. With preventive and deferred maintenance[2] spending combined (operating and capital), we just meet the 2% minimum. The Alaska Department of Education & Early Development (DEED) recommends that 5% of the operating budget or estimated replacement value be spent on preventive maintenance, and an additional 2.9% reserve be established for unanticipated and emergent needs.[2]

Comparison to Industry Standards		
JSD Replacement Value	334,537,413	
5 year average (operating expenditures)	3,668,391	**1.1%**
5 year average (operating and capital expenditures)	6,088,391	1.8%
Industry standard (2%-6% replacement value)	6,690,748	2%
	20,072,245	6%
DEED Recommendations:		
Preventive Maintenance, % of Operating Budget/Replacement Value	16,726,871	5%
Reserve for Unanticpated/Emergency Expenditures	9,701,585	2.9%

Summary

Looking at a 5 year average, CBJ and JSD spend a combined total of $12M annually on facility operations, maintenance and construction debt. Nevertheless, the deferred and major maintenance list is signifigat and growing; the attached six-year JSD Improvement Plan from the FY2023-2028 Capital Improvement Plan anticipates $130M in future facilities infrastrure needs.

[1] NAFSA (National Association of State Facilities Administrators). (2021, February). *Preventive Maintenance and Deferred Maintenance: Deferred Maintenance: What It Is, Why it Matters, and How to Fix It,* p. 9. https://cdn.ymaws.com/www.nasfa.net/resource/resmgr/deferred_maintenance_2021/Deferred_Maint_Report_-_Feb_.pdf

[2] State of Alaska – DEED. (1999 Edition). *Alaska School Facilities Preventive Maintenance Handbook,* pp. 7-8. https://education.alaska.gov/facilities/publications/preventivemaintenance.pdf

	2019	2020	2021	2022	2023
JSD Facilities - 5 Year Spending History	2019	2020	2021	2022	2023
Building maintenance (operating budget)	3,692,157	3,597,201	3,642,547	3,705,025	3,705,025
Defered Maintenance	800,000	1,000,000	1,000,000	1,000,000	1,000,000
Named projects	0	0	1,500,000	3,500,000	2,300,000
TOTAL	4,492,157	4,597,201	6,142,547	8,205,025	7,005,025

Katie, I updated "named CIP" projects for JSD by checking the Final CIP plans for each FY. Please see my comments inserted in cells.
Updated "CIP Names Projects JSD" chart below as well.

Comparison to Industry Standards		
JSD Replacement Value	334,537,413	
5 year average (operating expenditures)	3,668,391	**1.1%**
5 year average (operating and capital expenditures)	6,083,291	1.8%
Industry standard (2%-6% replacement value)	6,690,748	2%
	20,072,245	6%
DEED Recommendations:		
Preventive Maintenance, % of Operating Budget/Replacement Value	16,726,871	5%
Reserve for Unanticpated/Emergency Expenditures	9,701,585	2.9%

this number was 2% before (in 2/14/22 PWFC memo).

CIP Named Projects JSD:	**2019**	**2020**	**2021**	**2022**	**2023**
MRCS Boiler Replacement (requested)					900,000
DHMS Roof Funding Shortfall (requested)					1,400,000
No Named Projects	0	0			
Sayeik Gastineau Roof (10/20 G.O. Bond)			1,500,000		
Riverbend and DHMS Roofs (balance of 10/20 G.O. Bond)				3,500,000	
	0	0	1,500,000	3,500,000	2,300,000

CIP Named Projects 2023 CBJ

Centennial Hall Upgrade			6,800,000		2,800,000
Bus Shelter Improvements		50,000	150,000	50,000	60,000
arboredum repairs	120,000				
DT Library windows/ siding	100,000		150,000		
Glacier station air quality improvements			100,000		
JPD roof replacement				100000	
CCFR downtown fire stations				75000	
CCFR Glacier air quality improvements			100000		
Hagevig FTC Upgrades		1700000			
AB pool			1700000	3,300,000	
CBJ building facilty bond projects (treadwell, eagle valley HVAC, Fire stations,				3,000,000	
TOTAL	220,000	1,750,000	9,000,000	6,525,000	2,860,000

2019	2020	2021	2022	2023
			3,300,000	AB Pool maint

Taken From CBJ Capital Improvement Program FY2023-2028

Juneau School District

JSD Annual Deferred Maintenance	1	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
DHMS Roof Replacement	2	funded fy22	-	-	-	-	-
Riverbend Roof Replacement	3	funded fy22		-	-	-	-
MRCS Boiler Room Renovation	4	$ 900,000		-	-	-	-
Riverbend Carpet/Foundation Repairs	5		2000000*				
JDHS Boiler Room Renovation	6		$ 1,500,000	-	-	-	-
JDHS and FDMS Partial Roof Replacements	7	-	-	$ 1,100,000		-	-
MDAS Exterior Entry Improvements	8	-	-	-	$ 800,000	-	-
MRCS Restroom Renovation and Carpet Replacement	9	-	-	-	-	$ 1,300,000	-
MDAS Renovation	10	-	-	-	-	-	$ 37,000,000
MRCS Renovation	11	-	-	-	-	-	$ 21,000,000
DHMS Deferred Maintenance	12	-	-	-	-	-	$ 21,500,000
JDHS Deferred Maintenance	13	-	-	-	-	-	$ 17,000,000
Riverbend Deferred Maintenance	14	-	-	-	-	-	$ 7,500,000
TMHS Deferred Maintenance	15	-	-	-	-	-	$ 6,700,000
FDMS Deferred Maintenance	16	-	-	-	-	-	$ 4,000,000
Glacier Valley Deferred Maintenance	17	-	-	-	-	-	$ 3,500,000
Harborview Deferred Maintenance	18	-	-	-	-	-	$ 2,700,000
JSD Maintenance Facility Deferred Maintenance	19	-	-	-	-	-	$ 3,500,000
JSD Central Office (Old Dairy) Deferred Maintenance	20	-	-	-	-	-	$ 2,000,000
Gastineau Deferred Maintenance	21	-	-	-	-	-	$ 1,500,000
AB Deferred Maintenance	22	-	-	-	-	-	$ 1,100,000
		$ 1,900,000	**$ 2,500,000**	**$ 2,100,000**	**$ 1,800,000**	**$ 2,300,000**	**$ 130,000,000**

* funded in 2022 as separate apporpriation/insurance claim