JOINT ASSEMBLY/JSD FACILITIES COMMITTEE AGENDA

February 03, 2023 at 12:00 PM

Assembly Chambers/Zoom Webinar

Zoom Link: https://juneau.zoom.us/j/81449931245 or 1-253-215-8782 Webinar ID: 814 4993 1245

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A. CALL TO ORDER

B. LAND ACKNOWLEDGEMENT

C. ROLL CALL

D. APPROVAL OF AGENDA

E. APPROVAL OF MINUTES

1. April 7, 2022 - Regular Meeting

F. ITEMS FOR ACTION

G. INFORMATIONAL ITEMS

2. Roles and Responsibilities: Charter Review (13.8 & 13.9)
3. State and Region Population Trends
4. Enrollment Forecasting
5. Enrollment Data for Individual Borough Schools
6. How do we create a decision matrix that addresses enrollment?

H. FUTURE MEETING DATE(S) / LENGTH OF MEETING

I. 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
April 7, 2022

I. CALL TO ORDER

The meeting was called to order at 12:03 PM.

Members Present: Chair Greg Smith, Brian Holst, Elizabeth Siddon, Emil Mackey, Wade Bryson joined the meeting at 12:20 pm, Ms. Triem, Mayor Weldon joined the meeting at 12:10 pm.

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

School District Staff Present: Cassee Olin, Mark Sabbatini, and Will Muldoon.

II. WELCOME AND INTRODUCTION ROLL CALL

III. APPROVAL OF AGENDA

No objection, Agenda approved.

IV. APPROVAL OF MINUTES

A. January 13, 2022 – Regular Meeting

No objection. Minutes approved.

V. AGENDA TOPICS

A. Demographic Trending of Facility Planning

Mr. Watt talked about the forecast of the future student population and its steady decline. He asked the Committee to consider this information as they go forward talking about facilities and their use in the future. It is a gradual decrease that will happen over time. This topic is important and should be considered well before significant loss in student population occurs.

Discussion comments included being sure building maintenance continues whether or not the School Board/Assembly feel the building will be used in the future. Other comments included making determinations as to whether a building will continue to be used as a school. The consideration of consolidating students to fewer schools may have financial impact based on special funding that could be affected by moving students. The demographic study is leaning toward decrease in population. It is important to be sure the Committee uses due diligence and makes the hard decisions regarding closing some buildings. There is substantial deferred maintenance on several buildings which will have students in them for the immediate future and must be maintained. It is important to keep buildings maintained. It is expensive and the State is no longer providing funding to assist in these efforts. To place a large project on the

ballot for voter input, requires a lot of explanation as to why these buildings need to be improved and maintained. It will require voter confidence that money is being spent appropriately.

Chair Smith stated this will remain a topic on future agendas for deeper discussion.

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

Ms. Koester gave a brief explanation regarding the industry standard vs the City standard for maintaining facility maintenance. It is evident there is a greater need for facility maintenance than there are funds. The City currently spends $12M a year on combined school and CBJ facility maintenance each year. It is difficult to get the needs met without the assistance from the State which is not happening at this time. The conversation at this time is determining which facilities are the most important and working on maintenance in that order.

Discussion included an explanation by School District staff of the spreadsheet on page 21 of the packet. The spending on the chart shows the costs of employees, supplies, minor maintenance, insurance, etc. Deferred maintenance is the main issue for affecting the budget. Deferred maintenance has not always been funded where it needed to be. The question as to whether there is another way to look at funding maintenance on buildings, especially the back log. Industry standard for maintaining buildings is 2%-6% of the replacement value of the facility. Expenses on preventative building maintenance has not kept up with the industry standard. Deferred maintenance is just preventative maintenance that has been put off and become a bigger problem. Keeping up with the preventative maintenance is important. It is difficult to convince the Assembly to approve large dollar amounts for facilities that are not used fully. Maintenance projects that are currently have broad estimates listed. It would require further investigation in order to get more accurate numbers. Portions of buildings which need improving are not always seen or known about. The fact that these repairs have not been completed is largely due to the State's neglect in providing the constitutional funding requirement.

C. Next Steps

Discussion included making decisions on what is most important and bring back to the Committee. Break up the large projects into smaller projects, which may be easier to get funding.

VI. 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.

VII. ADJOURNMENT

The meeting adjourned at 1:01 PM.

From CBJ Charter:

Section 13.8. Capital improvements.

(a) The board shall make recommendations to the assembly concerning the necessity for school construction and other capital improvements, site selection, employment of architects, and building plans. The board shall submit preliminary plans to the assembly for suggestions before recommending final plans.

(b) Decisions by the assembly shall be final in all matters concerning school construction and other capital improvements, site selection, employment of architects, and building plans.

(c) The assembly shall appoint a four-man committee from its membership which shall deliberate with the board in formulating all plans to be recommended under Section 13.8(a) of this Charter.

Section 13.9. School maintenance.

The board, unless specifically transferring such responsibilities to the assembly, shall provide custodial services and routine maintenance for school buildings and shall provide employees for these purposes. The assembly shall provide major maintenance and all rehabilitation, repair and construction of school buildings.

A Great Market for Job Seekers

But employers wonder where all the applicants went

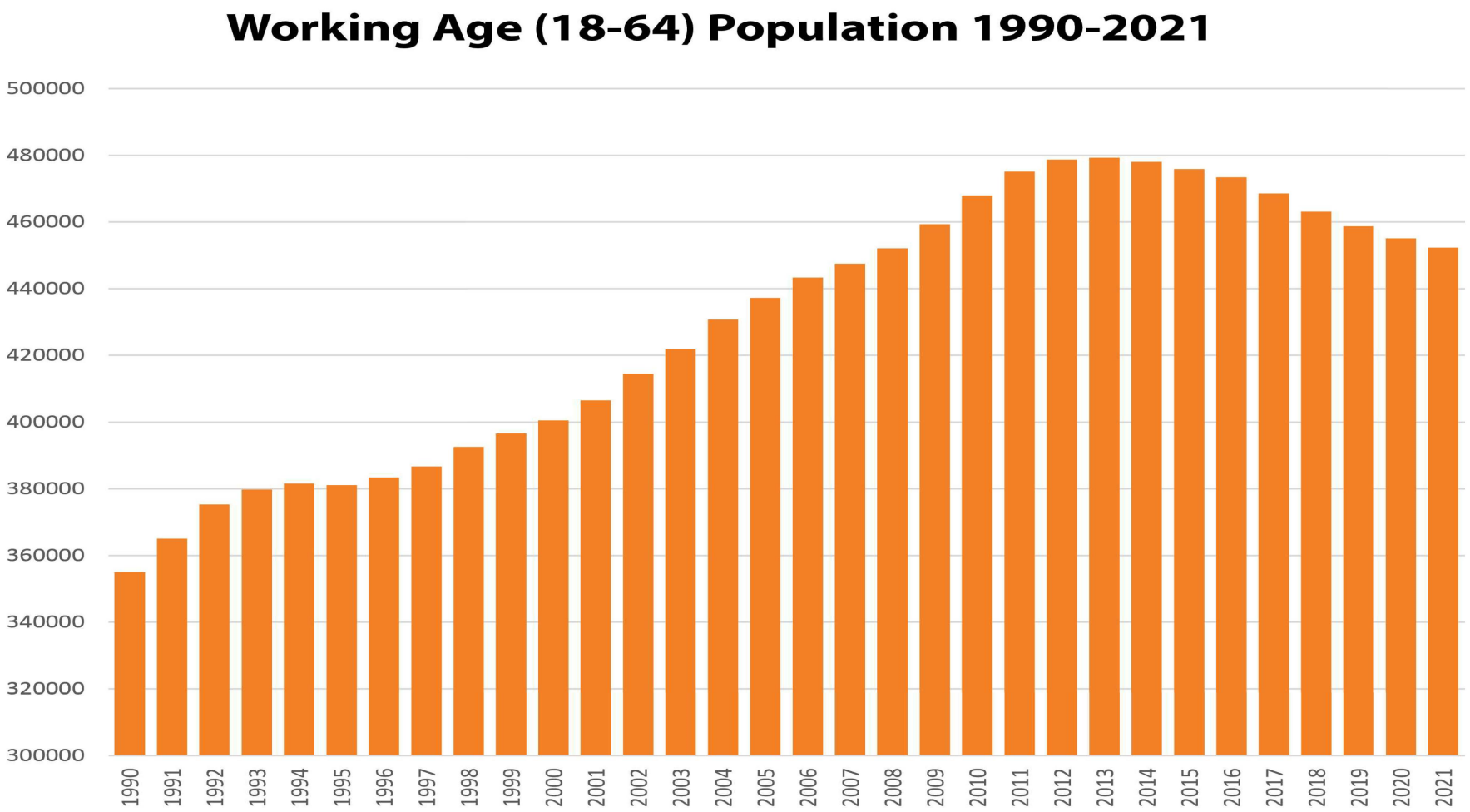
Alaska Association on Developmental Disabilities

October 27, 2022

Dan Robinson, Research Chief

Alaska Department of Labor and Workforce Development

Important Pre-COVID Trends



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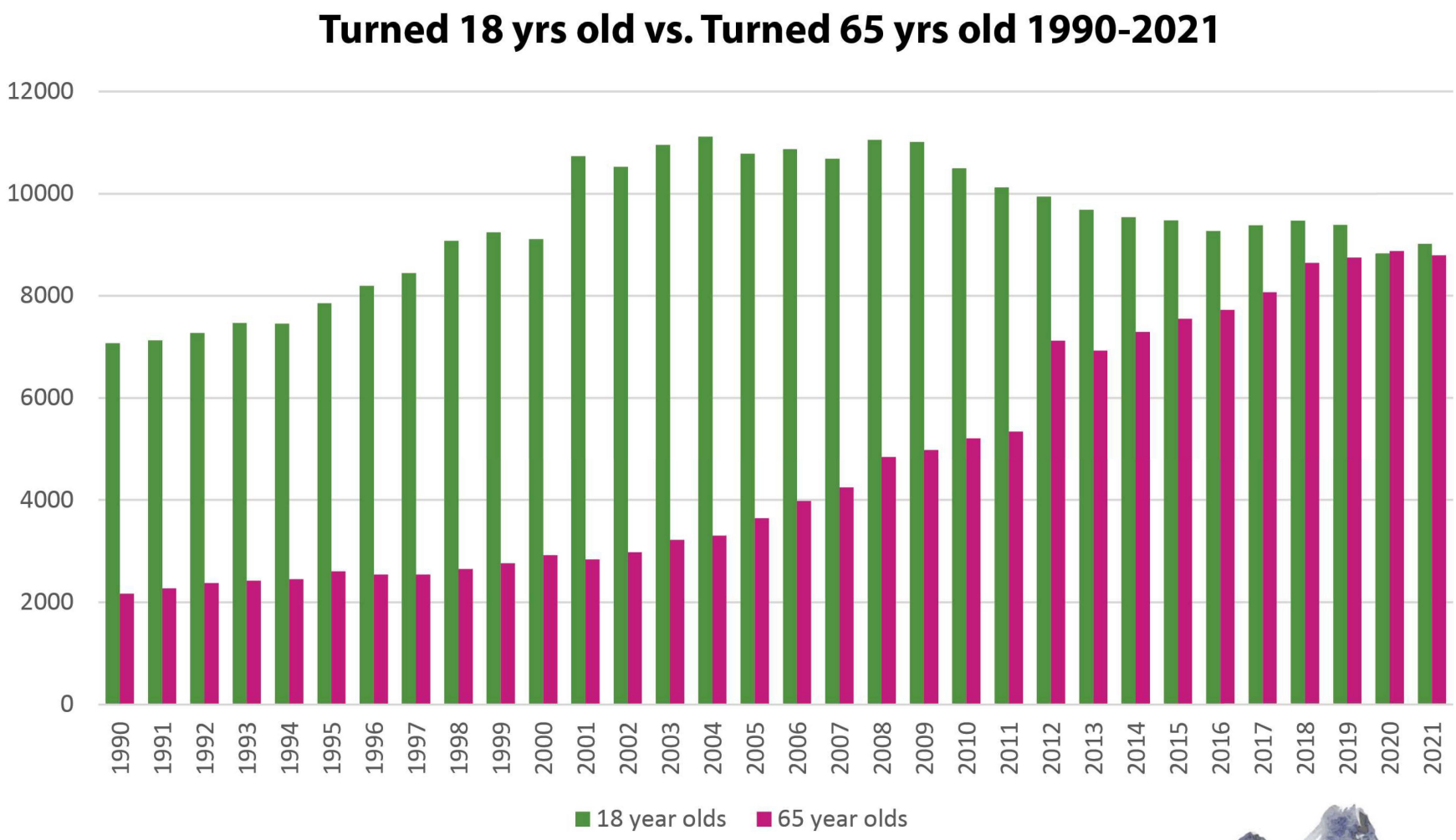
Important Pre-COVID Trends



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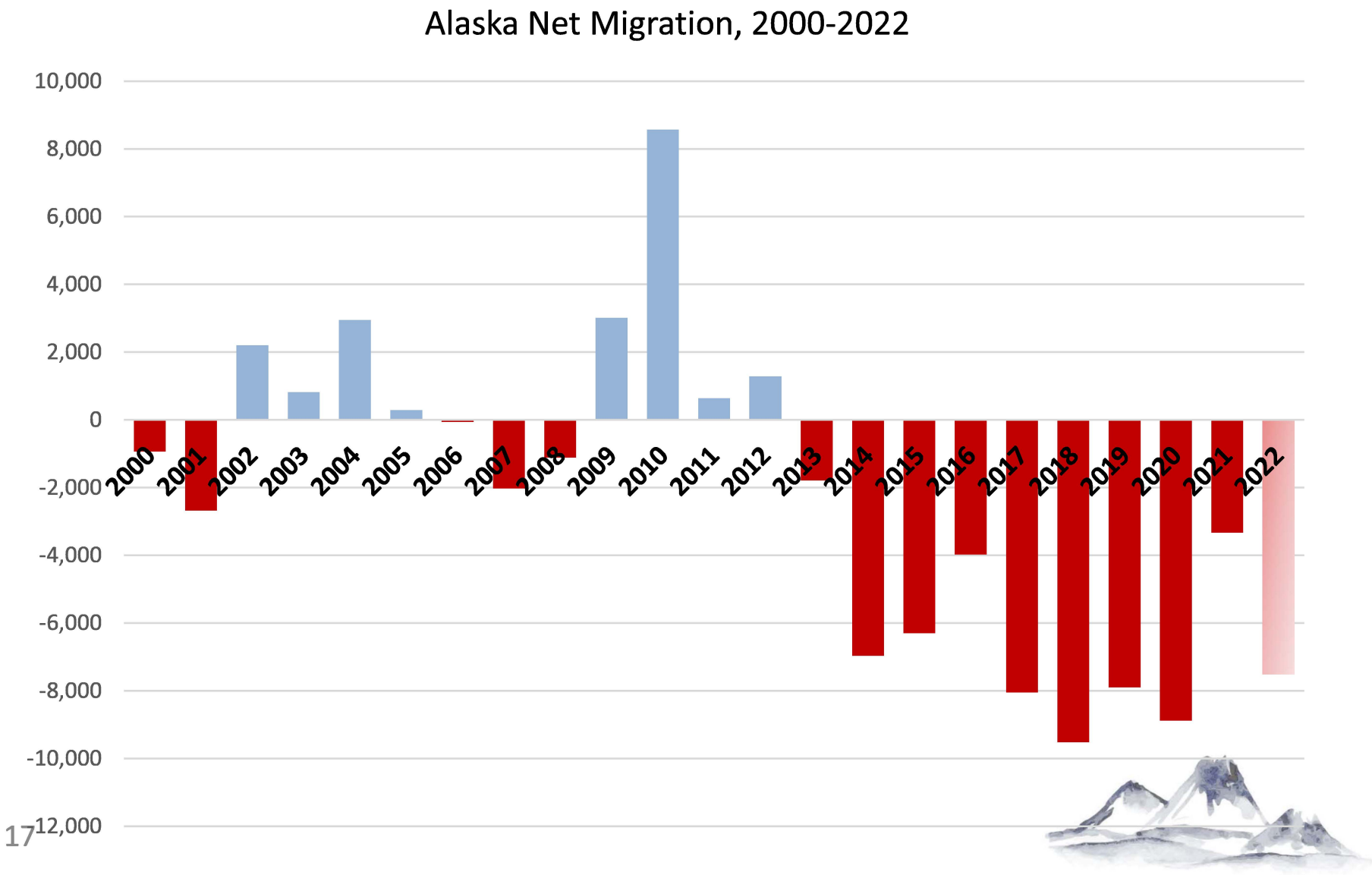
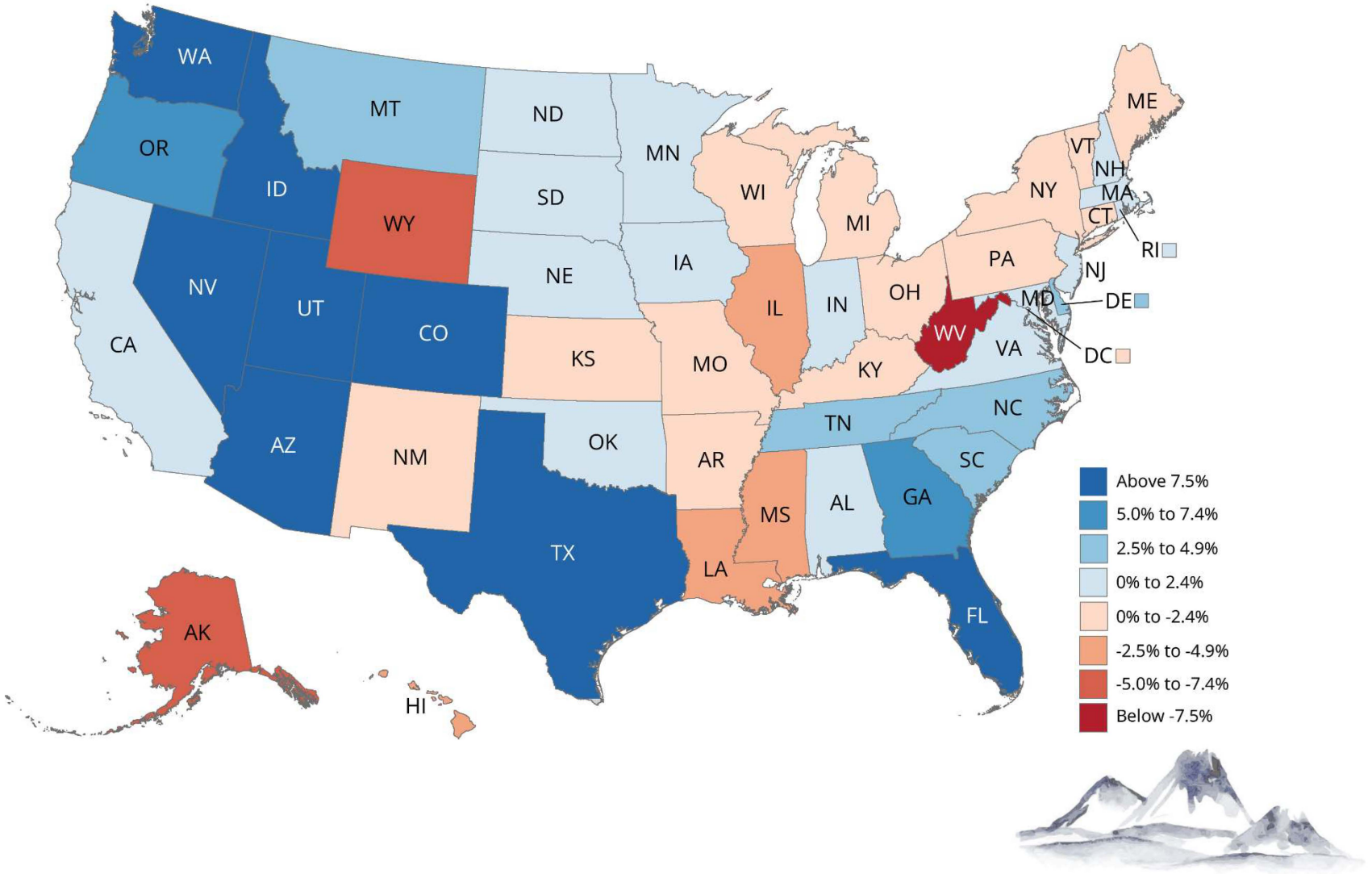
Important Pre-COVID Trends

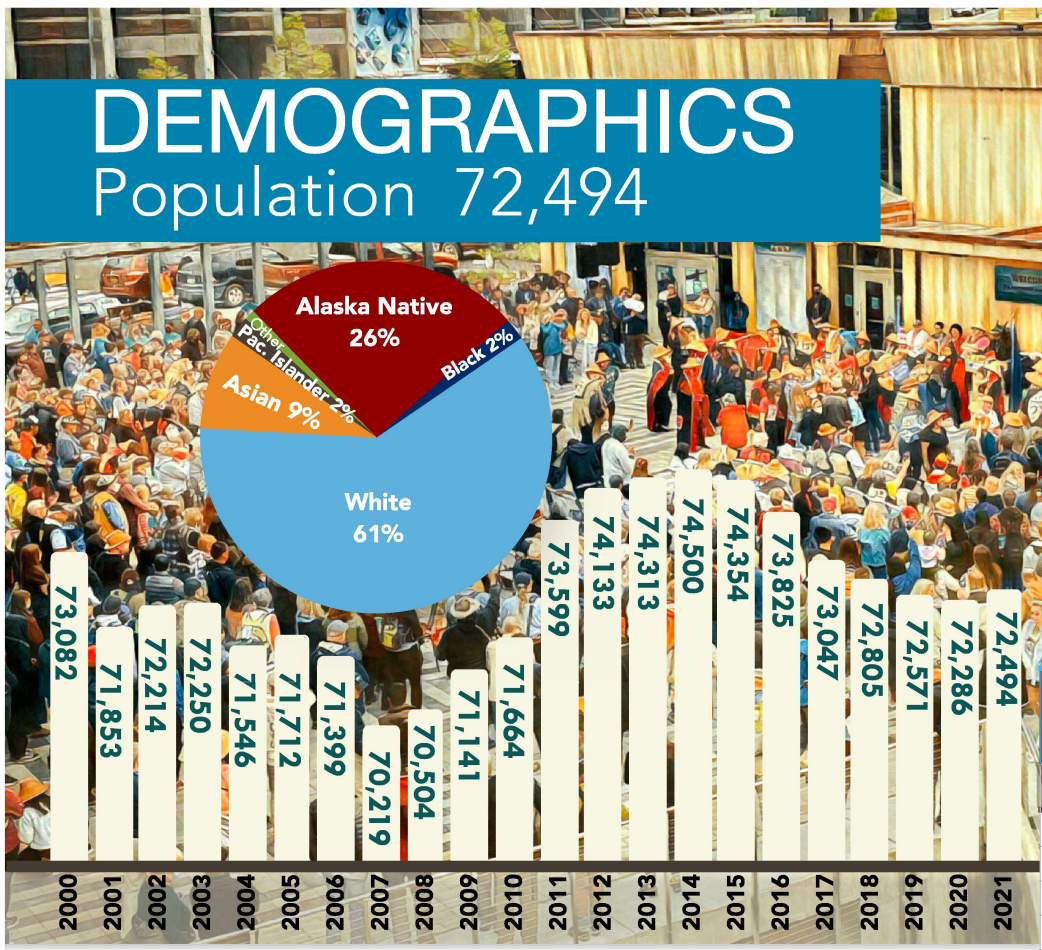


Important Pre-COVID Trends

Percentage Change in Working Age (18-64) population 2013-2021



DEMOGRAPHICS
Population 72,494



2021 After six consecutive years of population loss, the population of the region increased by over 200 people in 2021.

Unfortunately, this does not appear to represent actual gains, but a readjustment by the Alaska Department of Labor (ADOL), concerned about accuracy of the 2020 US Census figures for Haines, Hollis, Coffman Cove, Kasaan, and Edna Bay. Of the region's 32 communities, 20 lost residents in 2021. It is more accurate to estimate a loss of approximately 500 residents in 2021.

The primary element fueling the population losses — the 24% reduction in state jobs — is intensifying, and ADOL is projecting continued population declines in future years. Housing shortages and costs also contribute to population declines. However, robust job growth in the private sector will offset some of these losses.

School Enrollment Up

In 2021, for just the 4th time in 25 years, K-12 enrollment was up. School districts across the region added more than 100 new students, as students continue to return to the classroom following the rise of homeschooling during peak-pandemic. Schools remain more than 500 students below 2019 levels.

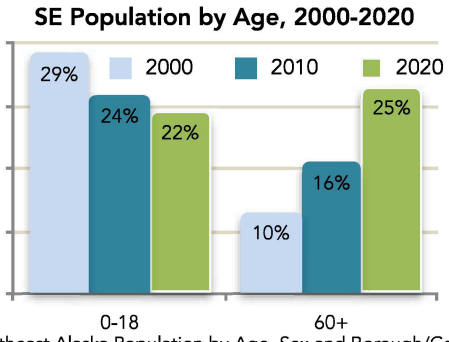
More than One-Quarter Alaska Native

The 2020 US Census shows a larger indigenous population than in previous census years. The Alaska Native population grew to 26% of all residents, for a total of 18,500 Alaska Native residents.

An Aging Demographic

Southeast continues to have the state's oldest residents. Since 2000, the most pronounced demographic shift has been the aging of the population. During that period, the 60-plus population grew by more than 10,000 people, from 10% of the overall population to a quarter. At the same time the number of those aged 18 and under decreased by 4,400. The median age is 41, while in Hoonah and Angoon the median age is 51.

SE Population by Age, 2000-2020



Population Change 2020 to 2021

Community	2020	2021	Change
Juneau Borough	32,255	32,155	-0.3%
Ketchikan Borough	13,948	13,895	-0.4%
Sitka Borough	8,458	8,387	-1%
Petersburg Borough	3,398	3,368	-1%
Haines Borough*	2,080	2,614	26%
Wrangell Borough	2,127	2,096	-1%
Metlakatla	1,454	1,403	-4%
Skagway Borough	1,240	1,203	-3%
Craig	1,036	969	-6%
Hoonah	931	902	-3%
Klawock	720	709	-2%
Yakutat Borough	662	697	5%
Gustavus	655	658	0.5%
Kake	543	557	3%
Thorne Bay	476	456	-4%
Hydaburg	380	376	-1%
Angoon	357	360	1%
Coffman Cove*	127	187	47%
Hollis*	65	138	112%
Naukati Bay	142	137	-4%
Tenakee Springs	116	122	5%
Pelican	98	92	-6%
Klukwan	87	88	1%
Whale Pass	86	84	-2%
Port Alexander	78	61	-22%
Kasaan*	30	46	53%
Hyder	48	42	-13%
Edna Bay*	25	40	60%
Port Protection	36	35	-3%
Elfin Cove	24	32	33%
Game Creek	23	19	-17%
Point Baker	12	10	-17%
Remainder	569	556	-2%
Total	**72,286**	**72,494**	**0.3%**

Sources: Alaska Department of Labor (ADOL); ADOL Southeast Alaska Population by Age, Sex and Borough/Census Area; Alaska Population Projections; US Census.
*ADOL is questioning 2020 US Census figures for some communities.

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 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

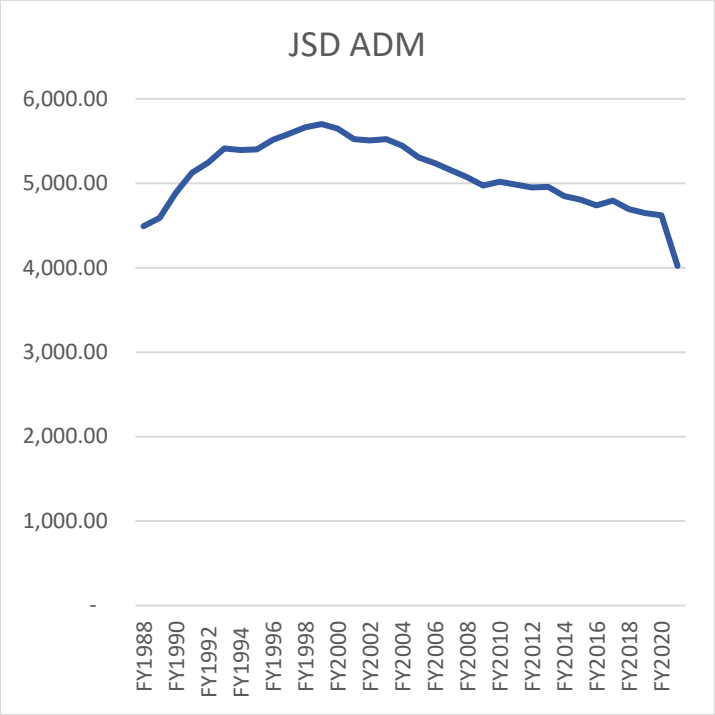
As shown in the annotated mid-case chart, Erickson predicts significant population change. Some of his estimates are based on hard cold facts (2nd graders today exist and will be Seniors in 10 years). Some predictions are founded on other factors (is our population shrinking or growing, and if so how 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 u 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.

ERICKSON & ASSOCIATES
Economic Consultants

264 NW Jefferson Place, Bend, OR 97703
119 Seward St. (suite 3), Juneau, AK 99801

Telephone (907) 957-6091
gerickso@gmail.com

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

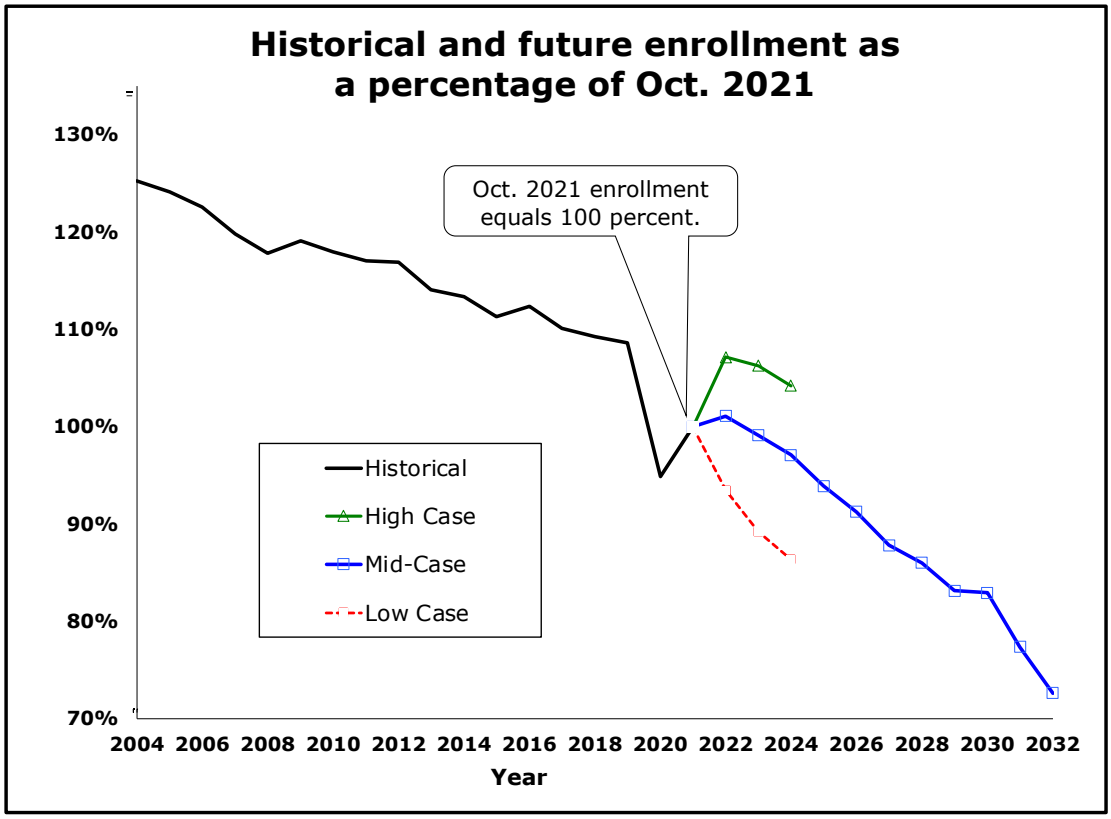


Figure 2 (next page, along with **Figure 3**) tabulates actual enrollment in 2020-21, and the projections for 2022-32. **Figure 3** shows grade-level enrollments under the *Mid* forecast.

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
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**

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

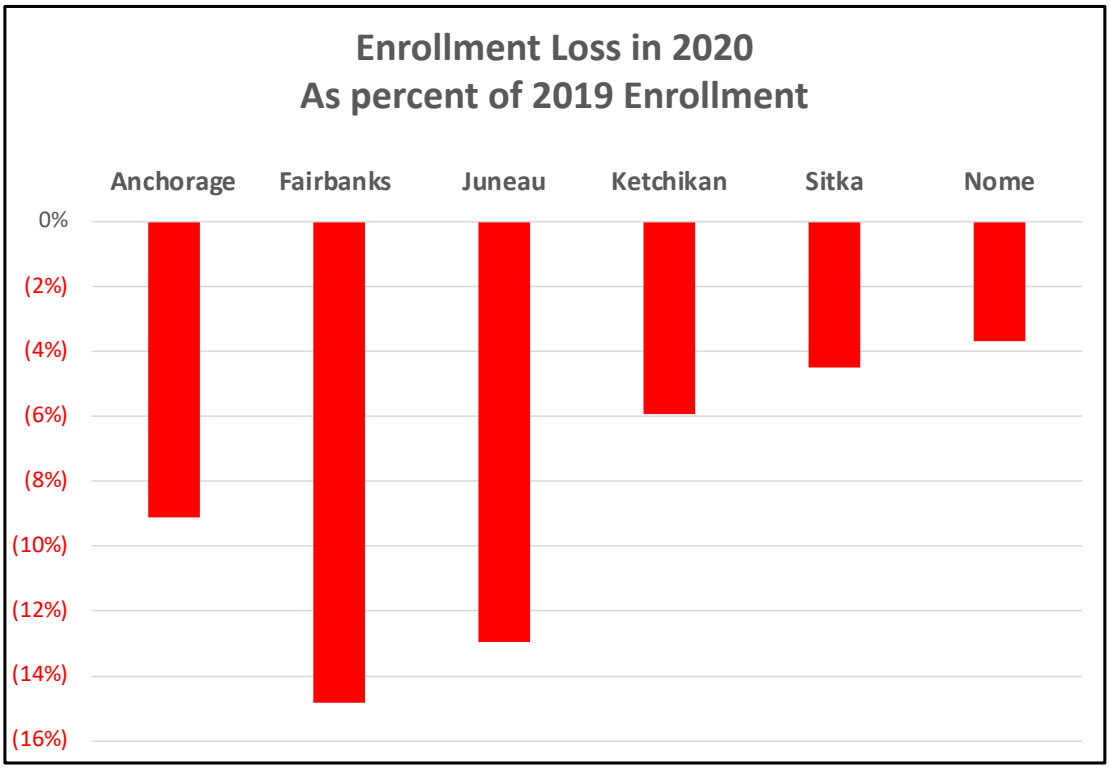
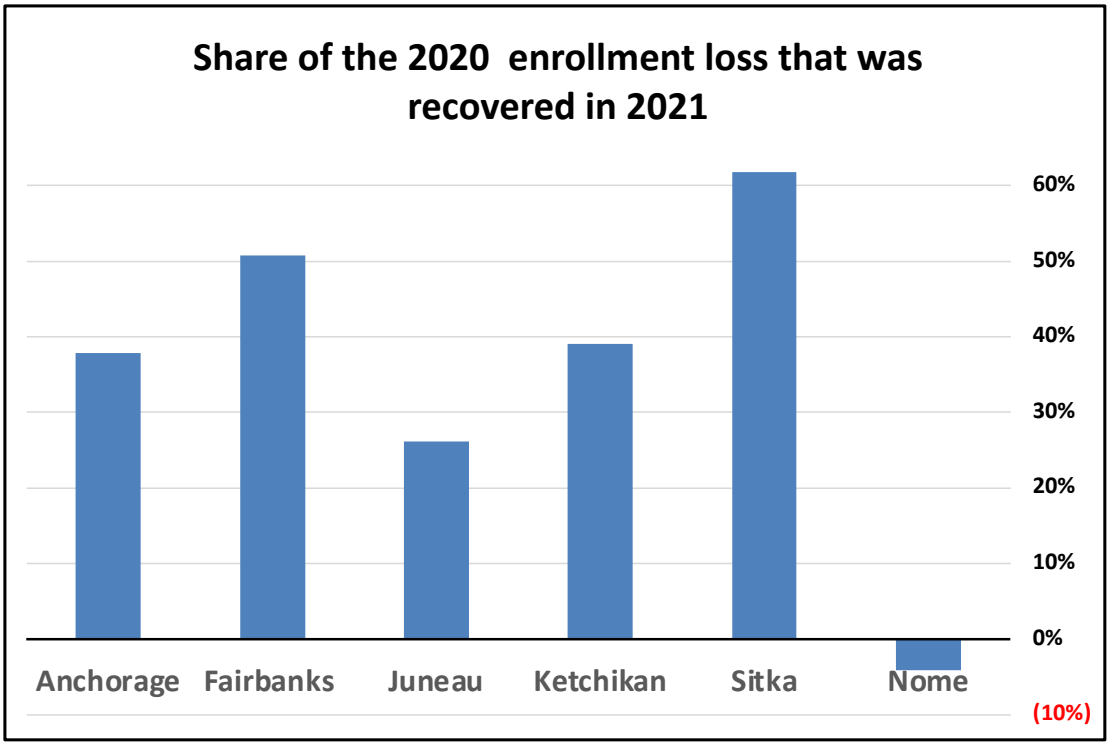


Figure 7

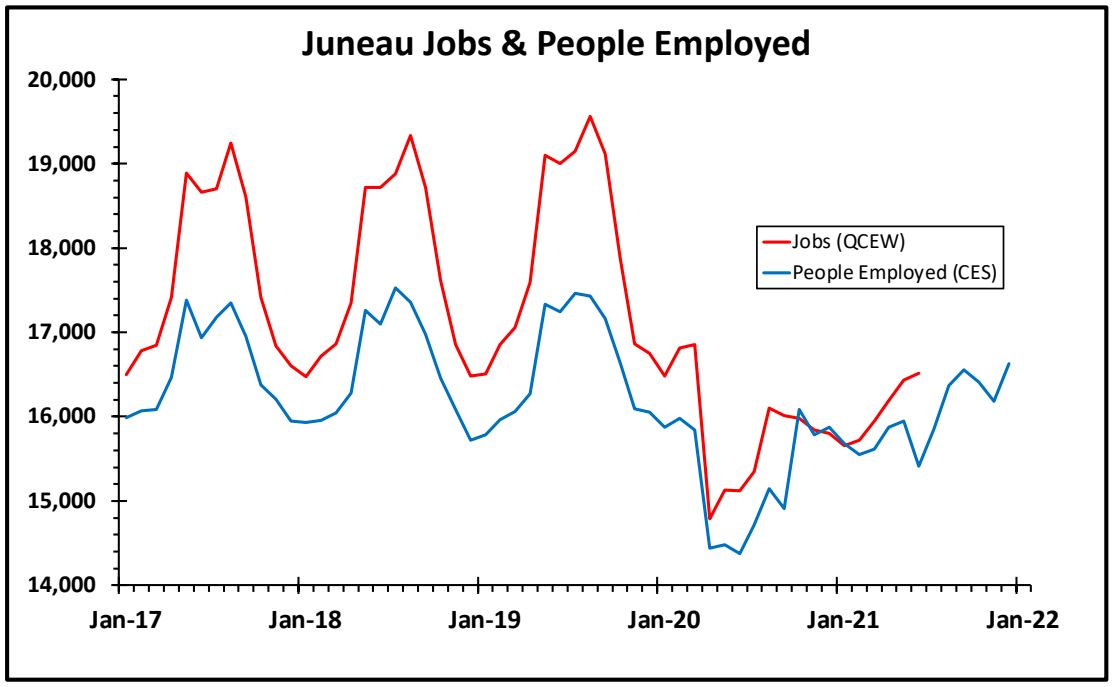


Employment trends

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,

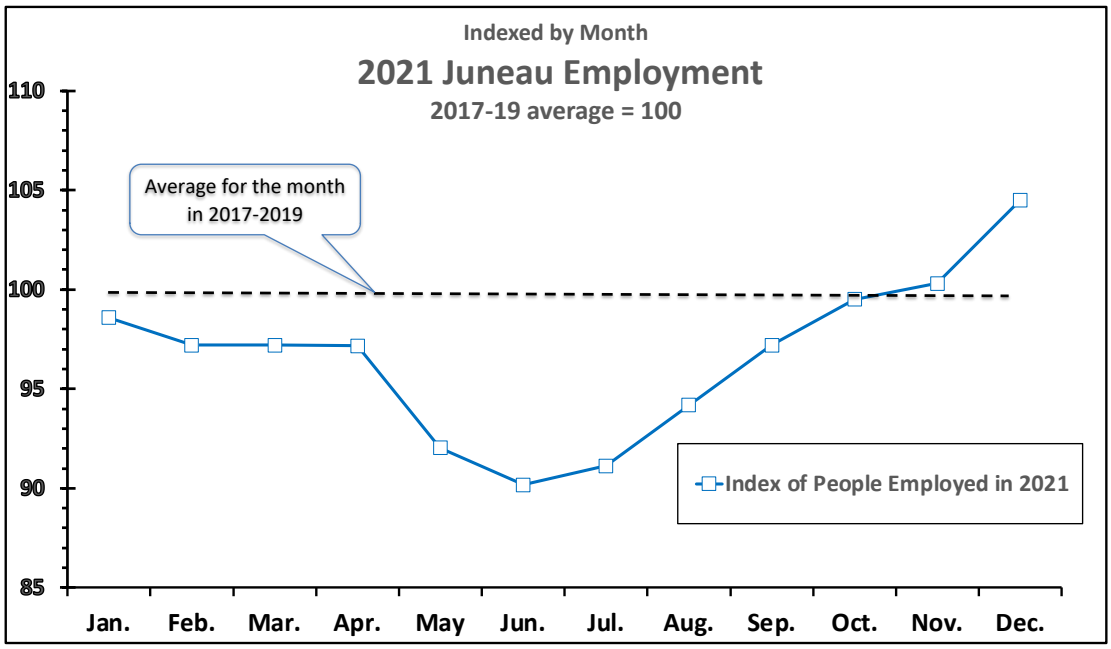
> Federal aid to businesses and individuals in the second and third quarters of 2020, which were affected by the pandemic, more than offset losses in personal income, according to recent data

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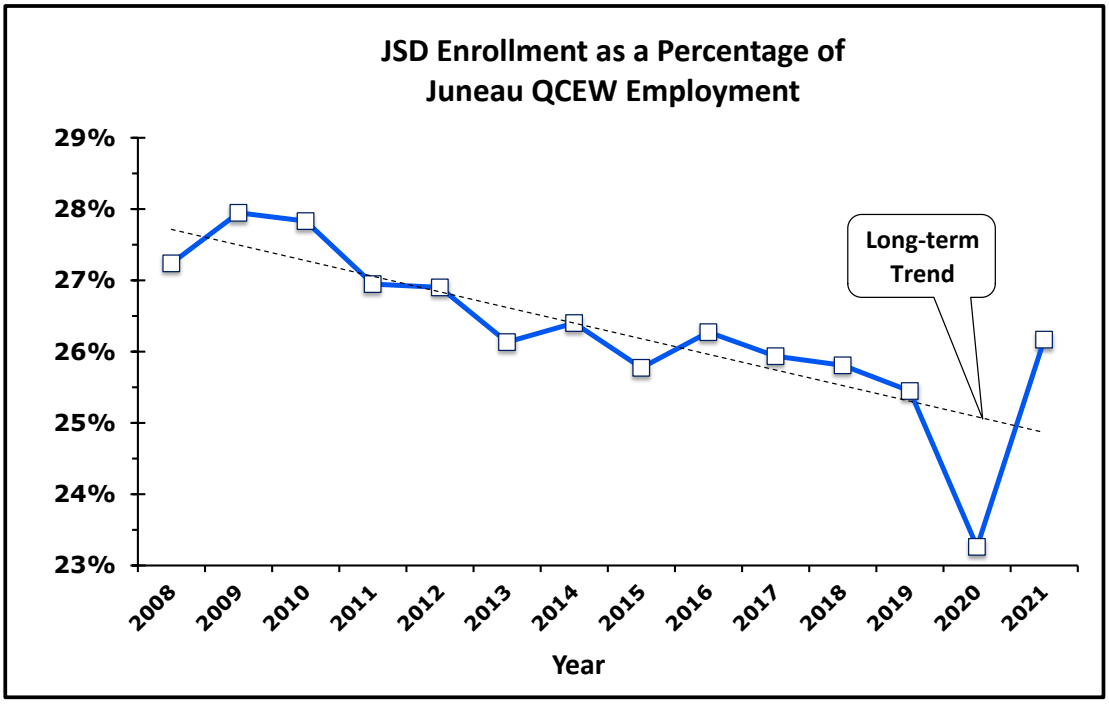
[7] Tim Bradner, "Analysis, 2020 was tough, 2021 will be better, maybe," *Mat-Su Frontiersman*, Dec. 30, 2020.

[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

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 2022-2. These children have not been born yet.

Facility	Year of original construction	Size (GSF)	Grades Served	Classroom Availability (SF)***	Uniform Building Code**	PK Use (# of clsrms)	DEED Capacity*	# Students ****
	*(DEED - School Facility Database*****)*							*(2022-2023 enrollment)*
ELEMENTARY SCHOOLS								
Auke Bay	1968	46,495.00	PK-5	8480	339	1 (IPK)	396	312
Gastineau	1953	45,433.00	PK-5	7720	309	3 (KR,IPK, HS)	386	259
Glacier Valley	1966	52,500.00	PK-5	9060	362	2 (KR,IPK)	453	292
Harborview	1952	66,290.00	PK-5	11560	462	2 (KR,IPK)	578	271
Mendenhall River	1983	58,000.00	PK-5	10060	402	5 (IPK,KR,HS)	503	249
Kaxdigoowu Héen *(prev. Riverbend in reports)*	1997	57,493.00	PK-5	9980	399	1 (IPK)	499	253
MIDDLE SCHOOLS								
Dzantik'i Heeni	1994	105,000.00	6-8	12680	507		634	455
Floyd Dryden	1972	75,486.00	6-8	8940	358		446	406
HIGH SCHOOLS								
Juneau Douglas	1956	216,700.00	9-12	23120	925		1156	566
Thunder Mountain	2008	168,842.00	9-12	20460	818		1023	584
OTHER----------								
Marie Drake	1968	72,135.00		7920	317		506	
Montessori Borealis			K-8			1 (PK/K)		184
Yaakoosge Daakahidi HS								71
Johnson Youth Center								23
Juneau Community Charter School			K-8					81
Homebridge			K-12					212
TOTALS:								**4218**

Data provided by the Juneau School District.

* Capacity Analysis done by Department of Education & Early Development (DEED) in 2023 using 2020-2021 student data using the DEED standards

** Capacity based on the Uniform Building codes

*** Classroom capacities based on 20 square feet per person. (Note this is not a student capacity as set by DOE) 25

****2022-2023 enrollment numbers provided by the JSD

Data provided by State of Alaska Department of Education & Early Development (DEED)

***** DEED School Facility Database

https://education.alaska.gov/DOE_Rolodex/SchoolCalendar/facility/FacilityDistrictDetails/22

Public School Funding Program Overview

Update January 2022

STUDENT BASED FORMULA

District Adjusted Average Daily Membership (ADM)

Step 1. Adjust: ADM for School Size
Step 2. Apply: District Cost Factor
Step 3. Apply: Special Needs Factor
Step 4. Apply: Vocational & Technical Funding
Step 5. Add: Intensive Services Count
Step 6. Add: Correspondence Student Counts
= District Adjusted (ADM)

ADM Reporting Requirements

ADM – is the average number of enrolled students during the 20-school day count period. The 20-school day count ends the fourth Friday of October. Reports are due within two weeks after the end of the 20-school day count period.

School Size Adjustment [Step 1]

For each school in the district subtract from the ADM **all** correspondence counts. Adjust the remaining ADM of each school using the school size factor table, on page 4.

1. A community with an ADM under 10:
   Added to the smallest school with an ADM greater than 10.
2. A community with an ADM from 10 - 100:
   Grades K-12 ADM combined and adjusted once, adjusted as one school.
3. A community with an ADM from 101 – 425:
   ADM for grades K-6 and 7-12 are adjusted separately; adjusted as two schools.
4. A community with an ADM greater than 425:
   ADM is adjusted once for each facility administered as a separate school;
   unless it's the only school in the community then it's adjusted as two schools.

* *Alternative* school with an ADM of 175 or greater *and* administered as a separate facility the ADM will be adjusted separately, unless:

   A. It's new and the 1st year of service with ADM between 120 to 175 receives an adjustment of 1.33; OR
   B. It had an ADM of 175 or greater in the prior year but drops below 175 in the current fiscal year receives an adjustment of 1.33; OR
   C. It has an ADM of less than 175 shall be counted as a part of the school in the district with the *highest* ADM.

* *Charter* school with an ADM of 150 or greater is adjusted as a separate facility unless:

   A. It's new and the 1st year of service with ADM between 75 to 150 receives an adjustment of 1.45; OR
   B. It had an ADM of at least 75 in the prior year the current fiscal year receives an adjustment of 1.45; OR
   C. It continues to stay below 75 ADM then it receives an adjustment of 1.18.

Select the appropriate formula from the school size factor table to calculate the adjusted ADM for each school.

School Size Table

Reference:	School Size:	Formula:
1.	10-19.99	39.60
2.	20-29.99	39.60 + (1.62 * (ADM - 20))
3.	30-74.99	55.80 + (1.49 * (ADM - 30))
4.	75-149.99	122.85 + (1.27 * (ADM - 75))
5.	150-249.99	218.10 + (1.08 * (ADM - 150))
6.	250-399.99	326.10 + (.97 * (ADM - 250))
7.	400-749.99	471.60 + (.92 * (ADM - 400))
8.	Over 750	793.60 + (.84 * (ADM - 750))

Correspondence student counts are not adjusted for size (see step 5).

Hold Harmless Provision [Step 1a]

The Hold Harmless [HH] provision was enacted in 2008 for those districts experiencing a reduction in enrollment affecting their adjustment for school size. Eligibility is determined after the district's adjusted for school size ADM are calculated and totaled up for all schools. The sum-total of the district's adjusted for school size ADM is compared against the prior fiscal year [FY] total adjusted for school size ADM to determine if a decrease of 5% or greater has occurred. If yes, then the prior FY is locked in as the "base year" for three years. The new school size adjustment with HH continues through the rest of the formula adjustments. The HH provision is available to school districts over a three-year step-down provided the adjusted for school size ADM total stays below the established "base year".

- 75% of school size adjusted ADM difference between the current FY to the base FY.
- 50% of school size adjusted ADM difference between the second FY to the base FY.
- 25% of school size adjusted ADM difference between the third FY to the base FY.

District Cost Factors [Step 2]

- Cost factors are specific to each school district and will range from 1.000 to 2.116.
- The department monitors the district cost factors and submits a report to the legislature on January 15 every other fiscal year, beginning in FY01.

The district's school size adjusted ADM is multiplied by the district cost factor.

Special Needs Funding [Step 3]

Vocational education, special education (except intensive special education), gifted/talented education, and bilingual/bicultural education are block funded. A district must file a plan with the department indicating the special needs services that will be provided, per AS 14.17.420 (b), to qualify for special needs funding.

The districts' previously adjusted ADM is now multiplied by the Special Needs factor of 1.20.

Vocational & Technical Funding [Step 4]

(Now referred to as Career & Technical Education or CTE)

These funds are intended to assist districts in providing vocational and technical instruction for students enrolled in grades 7 through 12. This excludes costs associated with administrative expenses; and instruction in general literacy, math, and job readiness skills, AS 14.17.420(a)(3). (*Enacted in 2011*)

The districts' previously adjusted ADM is now multiplied by the Career & Technical Education factor of 1.015.

Consolidation of Schools [Step 4a]

This provision assists districts that choose to consolidate one or more schools within a community. Each of the affected schools' ADM in the base year (the year prior to consolidation) and the current year are adjusted through the vocational and technical factor, the result of each calculation is divided by its respective fiscal year's ADM total to arrive at the quotients. The difference between these two quotients is added back to the district's ADM being adjusted. A district may not: offset the decrease of a new facility being constructed; reopen the school being consolidated until seven or more years pass and provide evidence schools are over capacity; or reopen and reconsolidate more than once every seven years. The provision is applied to the out years as follows:

- First two fiscal years following consolidation is 100% offset of the reduction in basic need for the affected schools.
- Third fiscal year is 66% offset of those funds in basic need of the affected schools.
- Fourth fiscal year is 33% offset of those funds in basic need of the affected schools.

Intensive Services Funding [Step 5]

A school district receives funding for intensive special education students that:

- Are receiving intensive services;
- Are enrolled on the last day of the 20-school day count period, and;
- Have an established Individual Education Plan (IEP).

The districts intensive student count is multiplied by 13.

The district's intensive calculation is added to the previously adjusted ADM.

Correspondence Programs [Step 6]

Funding for correspondence programs is calculated by multiplying the correspondence ADM by 90%.

The district's correspondence count calculation is now added to the previously adjusted ADM to arrive at the Final Adjusted ADM.

Basic Need

Multiply the district Final Adjusted ADM by the Base Student Allocation [BSA] to determine Basic Need. The BSA is $5,930 for FY2023.

PUBLIC SCHOOL FUNDING ELEMENTS

The components of Public School Funding are *State Aid*, *Required Local Contribution*, and *Title VII Impact Aid*.

Required Local Contribution

The local requirement is the equivalent of 2.65 mill tax levy on the full and true value of the taxable real and personal property in the district; and not to exceed 45% of the district's basic need for the preceding fiscal year.

Title VII Impact Aid

Federal Impact Aid provides funds to school districts for children of parents living and/or working on federal property "in-lieu of local tax revenues." After deductions, 90% of the eligible funds are used in the calculation of state aid.

State Aid Entitlement

Basic Need minus a Required Local Contribution minus 90% eligible Federal Impact Aid plus the amount of funding 'Floor' plus Quality School Grants equals State Aid Entitlement.

ADDITIONAL FUNDS ABOVE BASIC NEED

Maximum Local Contribution

The City or Borough can contribute more than is required but may not exceed the maximum local contribution. To calculate this, use the required local contribution plus 23% of basic need and those state funds calculated on adjusted ADM **or** a 2-mill equivalent of the full and true value of the taxable and real property within the district; whichever is *greater*. The additional amount is added to the required local effort to reach the maximum local contribution.

For Example:

Nome:

23% of Basic Need & additional funding distributed on AADM = $2,284,748 OR
.002 of Full & True Value = $943,296

RESULT:

Required Local Effort:	$1,249,867
Additional Local Contribution:	+ 2,284,748
Maximum Local Contribution:	$3,534,615

Quality School Grants

The district's adjusted ADM multiplied by $16 generates the amount the school district is eligible to receive.

Example: Nome Public Schools projected average daily membership or ADM is 665.00 and 20.00 correspondence for a total of 685.00 ADM.
Determining School Size Adjustment using the table from page 4.

School Name	**Projected ADM**	**School Size Calculation**	**Result of School Size Calculation**
Nome Elementary School	*310*	*326.10+(.97×(310−250))*	*384.30*
Nome/Beltz Jr. & Senior High School	*295*	*326.10+(.97×(295−250))*	*369.75*
Anvil City Science Academy Charter School	*60*	*1.18×60*	*70.80*
TOTAL School Size ADM			***824.85***

Is Nome still below the FY2020 base year and eligible for 25% of Hold Harmless provision? Yes
FY2020: **856.30** *less* FY2023: **824.85** = 31.45 x *25%* = 7.86 + 824.85 = **832.71**

Hold Harmless adjusted Total School Size of **832.71** continues below.
(Go to the 2023 Foundation Report Projection for coordinating Tab and Column Identifiers.)

FOUNDATION FORMULA PROCESS	**Data & Calculation**	**Tab & Column Identifier**
School Size Adjusted ADM	832.71	Tab 2 Col. F
Apply District Cost Factor	1.450	Tab 2 Col. G
Subtotal	**1,207.43**	Tab 2 Col. H
Apply Special Needs Factor	1.20	
Subtotal	**1,448.92**	Tab 2 Col. I
Apply the Career Technical Education Factor	1.015	
Subtotal	**1,470.65**	Tab 2 Col. J
Add Intensive Service Counts (Intensive student × 13) Nome has 14.	182	Tab 2 Col. K
Subtotal	**1,652.65**	Tab 2 Col. M
Add Correspondence at 90% of ADM. Nome has 20 correspondence ADM.	18.00	Tab 2 Col. N
Total District Adjusted ADM	**1,670.65**	Tab 2 Col. O
Multiply by $5,930 base student allocation	$5,930	
Nome's BASIC NEED:	**$9,906,955**	Tab 1 Col. B
Deduct Required Local Contribution	($1,249,867)	Tab 1 Col. C
Deduct Eligible Federal Impact Aid	($10,490)	Tab 1 Col. F
Total State Aid for Nome School District	**$8,646,598**	Tab 1 Col. G
Additional funds: Quality Schools Grant is Adjusted ADM x $16	$26,730	Tab 1 Col. H
State Aid + Quality Schools = TOTAL Entitlement	**$8,673,328**	**Tab 1 Col. I**