

# public agenda

## Regular Meeting of the Board of Trustees

April 26, 2022  
12:00 p.m.

Multipurpose Room,  
Education Centre  
1221 8 Street SW,  
Calgary, AB

### R-1: Mission |

Each student, in keeping with their individual abilities and gifts, will complete high school with a foundation of learning necessary to thrive in life, work and continued learning.

Conflict of Interest reminder: Trustees must disclose any potential pecuniary interest in any matter before the Board of Trustees, as set forth in the agenda as well as any pecuniary interest in any contract before the Board requiring the Board's approval and/or ratification.

Time	Topic	Who	Policy Ref	Attachment
12:00 p.m.	<b>1   Call to Order, National Anthem and Welcome</b>			
	<b>2   Consideration/Approval of Agenda</b>		GC-2	
	<b>3   Awards and Recognitions</b>		GC-3	
	<b>4   Results Focus</b>			
	4.1 Varsity Acres School, Bob Edwards School, and Western Canada High School Presentation	M. Poirier	R-4	
	<b>5   Operational Expectations</b>			
	<b>6   Public Comment [ <a href="#">PDF</a> ]</b>		GC-3.2	
	Requirements as outlined in Board Meeting Procedures			
	<b>7   Matters Reserved for Board Information</b>			
	<b>8   Matters Reserved for Board Decision</b>	Board	GC-3	
8.1 Results 4: Personal Development – Annual Monitoring	Board	R-4	Page 4-1 (April 5/22)	
8.2 OE-2: Learning Environment/Treatment of Students – Annual Monitoring	Board	OE-2	Page 5-1 (April 5/22)	
8.3 Recommendation to Commence Public Input to Consider the Closure of Start Outreach - Bowness	Board	GC-3E, OE-7, 8	Page 8-1	

Time	Topic	Who	Policy Ref	Attachment
	and Westbrook Outreach Programs for the Purpose of Relocation			
	<b>9   Consent Agenda</b>	Board	GC-2.6	
	9.1 Items Provided for Board Decision			
	9.1.1 Locally Developed Courses			Page 9-1
	<i>(THAT the Board approves the Locally Developed Courses listed in Appendix I for school use in The Calgary Board of Education, for the authorization periods set by Alberta Education.)</i>			
	9.1.2 Office of the Board of Trustees 2022-23 Operating Budget			Page 9-7
	<i>(THAT the Board approves the 2022-23 budget for the Office of the Board of Trustees of \$1,561,930, and it to be reasonable to allow the Board to effectively and efficiently perform its governing responsibilities.)</i>			
	9.2 Items Provided for Board Information		OE-8	
	9.2.1 CBE Sustainability Framework Update			Page 9-11
	9.2.2 Construction Projects Status Report			Page 9-101
	9.2.3 Board Correspondence			Page 9-112
	<b>10   In-Camera Session</b>			
4:30 p.m.	<b>11   Adjournment</b>			
	<b>Debrief</b>	Trustees	GC-2.3	

Notice |  
This public Board meeting will be recorded & posted online.  
Media may also attend these meetings.  
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Office of the Corporate Secretary at [corpsec@cbe.ab.ca](mailto:corpsec@cbe.ab.ca).

## results monitoring report

# Results 4: Personal Development

## CHIEF SUPERINTENDENT CERTIFICATION

With respect to Results 4: Personal Development, the Chief Superintendent certifies that the information in this report is accurate and complete, and that the organization is:

- making reasonable progress toward achieving the desired results.
- making reasonable progress with exception (s) (as noted).
- not making reasonable progress.



Signed: \_\_\_\_\_

Date: March 31, 2022

Christopher Usih, Chief Superintendent

## BOARD OF TRUSTEES ACTION

With respect to Results 4: Personal Development, the Board of Trustees finds the organization:

- to be making reasonable progress.
- to be making reasonable progress with exception (as noted in motion).
- not to be making reasonable progress.

Summary statement/motion of the Board of Trustees:

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Laura Hack, Chair, Board of Trustees

## Executive Summary |

### Analysis |

The Annual Returning Rate for CBE was consistently lower than the province from 2015-16 to 2019-20. The year-over-year declines from 2017-18 to 2019-20 for both CBE and the province are likely tied to Alberta Education's updated methodology (see footnote 2 on page 12 | 49). Improvement is observed in the percentage of CBE students returning to post-secondary education after having left the K-12 system for two years.

The Results 4 K-9 report card data indicate that Overall Level of Success continues at a fairly constant high level. The Exemplary Strengths indicator for both stems show a strong upward trend across five years. Following a significant decline in 2019-20 school year for both stems, Network of Support Required saw a notable increase in 2020-21 for the stem, "Sets and works toward learning goals".

Overall Level of Success report card results by stem are:

- Sets and works toward learning goals: 97.2%
- Engages in learning with confidence and persistence: 96.9%

The Health/CALM report card All Students result is 97.7%.

The two indicators tied to survey results where questions were included in the 2020-21 CBE Student Survey, saw Overall Agreement in the high sixties, though individual question agreement ranged from 44.1% to 82.7%

### Targets |

Targets are identified where the Chief Superintendent sees an opportunity for growth or where the Board of Trustees identifies an area of concern or exception.

Results 4 was a minor focus on the CBE Student Survey in 2020-21. Targets were set for CBE Student Survey indicators in Policies 4.1 and 4.5 only.

- Policy 4.1
  - Indicator 1 – Target for 2020-21: at or above 19.5%
- Policy 4.5
  - Indicator 2 – Target for 2020-21: at or above 68%
  - Indicator 4 – Target for 2020-21: at or above 69%

### Context for Indicators |

With respect to report card achievement data, due to the ongoing COVID-19 pandemic and the learning disruptions experienced to date, significant caution should be exercised when stating trends over time. While not directly comparable, year-over-year results have been examined with consideration given to context.

Caution should be used when interpreting student survey results over time. Survey participation was impacted by the COVID-19 pandemic.

## Glossary of Terms |

- Board: Board of Trustees
- Monitoring Report: The Board wants to know that its values have driven organizational performance. The Chief Superintendent will present to the Board, for its evaluation, a report that summarizes how either compliance has been achieved on *Operational Expectations* or how reasonable progress has been made in *Results*. Each monitoring report requires: a re-statement of the full policy, by section; a reasonable interpretation of each section; data sufficient to prove compliance or progress; and a signed certification from the Chief Superintendent of the status.
- Reasonable Interpretation: Once the Board has stated its values in policy, the Chief Superintendent is required to “interpret” policy values, saying back to the Board, “here is what the Board’s value means to me.” The Board then judges whether this interpretation is reasonable. In other words, does the Chief Superintendent “get it?” This reasonable interpretation is the first step required in monitoring compliance on *Operational Expectations* and monitoring reasonable progress on *Results*.
- Results: These are our statements of outcomes for each student in our district. The Results policies become the Chief Superintendent’s and the organization’s performance targets and form the basis for judging organization and Chief Superintendent performance.

## Policy |

Results 4: Each student will identify and actively develop individual gifts, talents and interests.

## Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to affirm the responsibility of public education in relation to recognizing and strengthening the diverse abilities and capacities of individual learners.

The Chief Superintendent interprets *each student will identify and actively develop individual gifts, talents and interests* to mean that in and through their learning program, every individual learner in The Calgary Board of Education will identify and actively develop their individual gifts, talents and interests.

## Students will:

4.1 Demonstrate resilience and perseverance to overcome failure and adapt to change.

### Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students respond to difficult circumstances and experiences in ways that continue the learning process.

The Chief Superintendent interprets *resilience and perseverance* to mean that students remain engaged in or return to their learning when faced with difficult or unfamiliar situations.

The Chief Superintendent interprets *overcome failure and adapt to change* to mean that students respond in new or renewed ways to new circumstances and setbacks in learning.

### Indicators |

1. Percentage of CBE students who return to school after dropping out; as reported by Alberta Education.
2. Percentage of students who report they work through setbacks and challenges in their learning; as measured by Overall Agreement of the **Resiliency and Perseverance Summary Measure** from CBE Student Survey.
3. Percentage of students who report they can adapt to new learning situations; as measured by Overall Agreement on the **Adaptability Summary Measure** from CBE Student Survey.

## Students will:

4.2 Take initiative, set goals, self-evaluate and strive to continuously improve.

### Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students will be actively involved in the design and assessment of their learning.

The Chief Superintendent interprets *take initiative* to mean that students raise questions, explore ideas and identify possible actions within their learning programs.

The Chief Superintendent interprets *set goals* to mean that students identify new accomplishments they would like to pursue and achieve.

The Chief Superintendent interprets *self-evaluate* to mean that students examine evidence of their learning to understand what they have accomplished and what learning is required next.

The Chief Superintendent interprets *strive to continuously improve* to mean that students modify and refine their learning strategies based on experience and feedback.

### Indicators |

1. Percentage of students in kindergarten to grade 9 reported to set and work toward learning goals; as measured by student report cards.
2. Percentage of high school students who report they are able to set goals for themselves and work towards them; as measured by Overall Agreement on the **Self-Improvement Summary Measure** on CBE Student Survey.
3. Percentage of high school students who report they raise questions and bring their own ideas to learning tasks; as measured by Overall Agreement on the **Self-Advocacy Summary Measure** on CBE Student Survey.
4. Percentage of high school students who report they use feedback and past experiences to improve their learning; as measured by Overall Agreement on the **Self-Reflection Summary Measure** on CBE Student Survey.

## Students will:

4.3 Have the confidence to embrace ambiguity and complexity.

### Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students will be open to and positive about engaging in learning that exceeds simple and predictable tasks, ideas and experiences.

The Chief Superintendent interprets *confidence* to mean that students approach learning with positive expectations.

The Chief Superintendent interprets *ambiguity* to mean learning that has an element of uncertainty or that can be understood in more than one way.

The Chief Superintendent interprets *complexity* to mean learning that involves a number of interconnected parts.

### Indicators |

1. Percentage of students in kindergarten to grade 9 reported to engage in learning with confidence and persistence; as measured by student report cards.
2. Percentage of high school students who report they are comfortable learning about things that don't have a single right answer; as measured by the **Ambiguity and Complexity Summary Measure** from CBE Student Survey.



**Students will:**

4.4 Take risks appropriately.

**Interpretation |**

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students will intentionally and thoughtfully strive beyond what is easy and comfortable in their learning.

The Chief Superintendent interprets *take risks* to mean that students act without assurance of success in order to fulfill a learning goal.

The Chief Superintendent interprets *appropriately* to mean in alignment with the expectations and indicators of the Board of Trustees' Results policies for Citizenship and Character.

**Indicator |**

1. Percentage of students who report they try new things in their learning even when they are not guaranteed success; as measured by Overall Agreement on the **Risk-taking Summary Measure** from CBE Student Survey.

## Students will:

4.5 Make lifestyle choices based upon healthy attitudes and actions, and be able to assume responsibility for personal well-being.

### Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students will make well-informed decisions on behalf of their physical, social, and emotional health and become increasingly independent in doing so.

The Chief Superintendent interprets *lifestyle choices* to mean decisions that promote overall well-being for the present and future.

The Chief Superintendent interprets *healthy attitudes and actions* to mean understandings, values, decisions and behaviors that promote physical, social and emotional well-being.

The Chief Superintendent interprets *assume responsibility for personal well-being* to mean that students gather, evaluate and synthesize information to understand health issues and make health-related decisions.

### Indicators |

1. Percentage of students experiencing success with the learning outcomes of the Health/CALM Programs of Study; as measured by student report cards.
2. Percentage of students who report they make decisions that keep them physically healthy; as indicated by the Overall Agreement of the **Physical Health Summary Measure** from CBE Student Survey.
3. Percentage of students who report they make decisions that keep them socially healthy; as indicated by the Overall Agreement of the **Social Health Summary Measure** from CBE Student Survey.
4. Percentage of students who report they make decisions that keep them emotionally healthy; as indicated by the Overall Agreement of the **Emotional Health Summary Measure** from CBE Student Survey.

## Students will:

4.6 Be technologically fluent, able to use digital tools critically, ethically and safely.

### Interpretation |

The Chief Superintendent interprets the Board of Trustees' values in this statement to mean that students will be able to incorporate technology within their learning as they work with others and explore their personal interests and talents.

The Chief Superintendent interprets *technologically fluent* to mean that students can use information and communication technologies and media within their learning environments to meet their learning needs and personal goals.

The Chief Superintendent interprets *critically, ethically and safely* to mean students demonstrate inquisitive, reasoned and caring actions as they explore and assess ideas, communicate with others and learn.

### Indicators |

1. Percentage of students who report they can use technology to help them learn; as measured by Overall Agreement of the **Learning Technology Summary Measure** from CBE Student Survey.
2. Percentage of students who report they use technology to explore personal interests and ideas; as measured by Overall Agreement of the **Technological Fluency Summary Measure** from CBE Student Survey.
3. Percentage of students who report they use technology to communicate effectively with others; as indicated by Overall Agreement of the **Technological Communication Summary Measure** from CBE Student Survey.
4. Percentage of students who report they can assess critically information presented in online environments; as measured by Overall Agreement of the **Technological Critical Thinking Summary Measure** from CBE Student Survey.

## Monitoring Information |

### Evidence of Progress |

#### Board-approved indicators and targets as well as 2020-21 results, analysis and interpretation |

#### Policy 4.1

##### Policy 4.1 Indicator 1

1. Percentage of CBE students who return to school after dropping out; as reported by Alberta Education.

The Annual Dropout and Returning Rates<sup>1</sup> are based on data for three consecutive school years. An initial cohort of students age 14 to 18 (the Age Specific Cohort) is established for a given school year. The Annual Dropout Rate is calculated by determining the number of students from the Cohort who are not found to be anywhere within the Alberta learning system in the subsequent school year. Finally, the Annual Returning Rate is calculated by tracking how many of the students who were not in the learning system in the second consecutive year are found to have returned to the learning system in the third year.

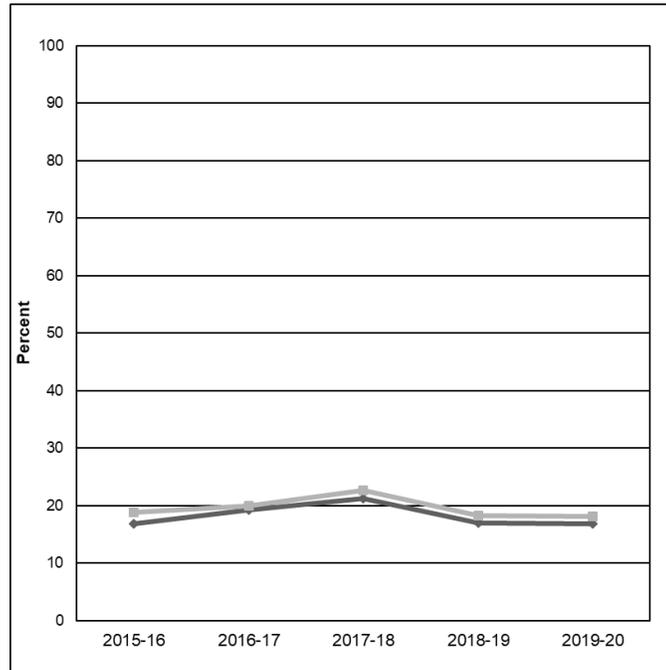
A student is considered to be participating in the Alberta learning system if they meet at least one of the following criteria at any point in the subsequent school year:

- the student has a registration in the K-12 system;
- the student has taken a high school level course;
- the student has received a diploma;
- the student has attended a post-secondary institution;
- the student has registered in an apprenticeship program;
- the student has attained Academic Standing (passed five grade 12 courses that include one Language Arts diploma exam course and three other diploma exam courses by the end of the subsequent school year); and
- the student has attained a Certificate of School Completion.

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<sup>1</sup> Reference: Annual dropout and returning rates: methodology for rate calculation. Alberta Education. (May 2020). Retrieved Mar. 5, 2022, from <https://open.alberta.ca/dataset/28cde5fb-bea2-46f0-ab9e-e840f1daa107/resource/32e498f3-acd6-4377-9ba2-f34d3a6c134e/download/edc-dropout-returning-rate-methodology-2020-05.pdf>

Annual Returning Rate (%)					
Cohort	2015-16	2016-17	2017-18	2018-19 <sup>2</sup>	2019-20
<b>CBE</b>	16.9	19.2	21.3	17.0	16.8
<b>Alberta</b>	18.9	19.9	22.7	18.2	18.1



**Note** | Annual Return Rate data are always a year behind the reporting year. For example, while the most current CBE rate (16.8%) was reported in the *Spring 2021 Alberta Education Assurance Measure Results Report*, instead of being for the 2020-21 school year (reporting year) it is for the previous school year (2019-20).

- **Target for 2020-21:** At or above 19.5%.

Target not met.

- **Analysis**

Based on a comparison of the 2019-20 results to the Previous 3-Year Average and using Alberta Education’s Accountability Pillar chi-square range for the Improvement Measure evaluation, CBE results showed a decline that was not statistically significant.

CBE Annual Returning Rate was consistently lower than the province over the five years with the gap for the past three years being similar.

<sup>2</sup> Starting in 2018-19, an updated methodology was applied to more accurately attribute results in cases where students receive programming from more than one provider within a school year. Caution should be used when interpreting school and school authority results over time.

Comparable to the trend observed in the provincial results, after two years of consecutive increases from 2015-16 to 2017-18, CBE's Annual Returning Rate had two years of consecutive declines. However, the degree of decrease in from 2018-19 to 2019-20 was smaller than that from 2017-18 to 2018-19.

The five-year, 10-year and 15-year Annual Returning Rate result trends for both CBE and Alberta are all downward.

In examining the data that identify students returning to K-12, Post-Secondary or Apprenticeship as well as the estimated attrition, CBE's K-12 rate was 2.54 percentage points lower than the province's rate.

The area that is seeing improvement is the percentage of students from this cohort returning to post-secondary education.

- **Interpretation**

CBE results saw two years of consecutive improvement previously from 2015-16 to 2017-18, followed by two years of consecutive decline from 2017-18 to 2019-20. While the current year results declined from the previous year, as compared to the previous three-year average, the decline was not statistically significant.

The declines over the last two years are likely tied to updated methodology as noted in footnote 2 on the previous page.

Of the criteria identified in the bullets on the previous page, as compared to the province, CBE had a lower number of students returning to K-12 and a higher number of students returning to learning in the "attending a post-secondary institution" category.

Policy 4.1 Indicator 2

2. Percentage of students who report they work through setbacks and challenges in their learning; as measured by Overall Agreement of the **Resiliency and Perseverance Summary Measure**<sup>3</sup> from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

Policy 4.1 Indicator 3

3. Percentage of students who report they can adapt to new learning situations; as measured by Overall Agreement on the **Adaptability Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

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<sup>3</sup> A **summary measure** describes a whole set of data using a single value. In the case of the survey summary measures, each summary measure is the roll-up of the results for each of the questions asked for a particular measure. For example, the **Resiliency and Perseverance Summary Measure** is the straight average of the results from the four questions asked of students regarding working through setbacks and challenges in their learning.

## **Policy 4.2**

### Policy 4.2 Indicator 1

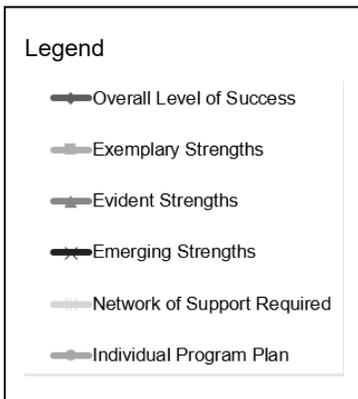
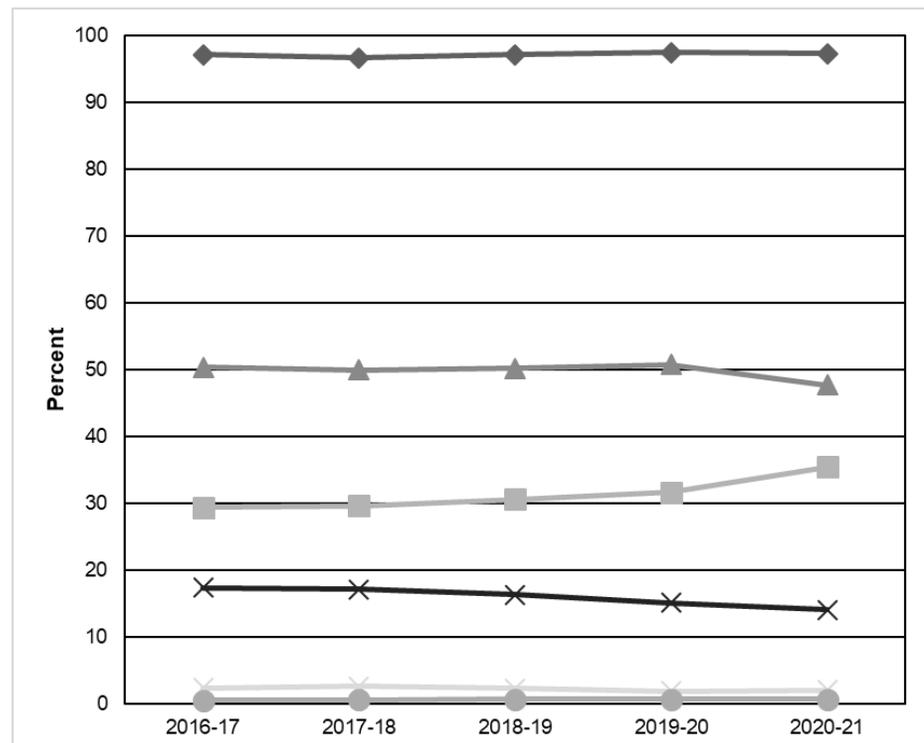
1. Percentage of students in kindergarten to grade 9 reported to set and work toward learning goals; as measured by student report cards.

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**All Students**

Sets and works toward learning goals <sup>4</sup> (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	29.4	29.6	30.6	31.6	35.4
<b>Evident Strengths</b>	50.3	49.9	50.2	50.7	47.7
<b>Emerging Strengths</b>	17.4	17.3	16.2	15.1	14.1
<b>Network of Support Required</b>	2.4	2.6	2.3	1.9	2.1
<b>Individual Program Plan</b>	0.5	0.6	0.7	0.7	0.7
<b>Overall Level of Success</b>	<b>97.1</b>	<b>96.6</b>	<b>97.1</b>	<b>97.4</b>	<b>97.2</b>

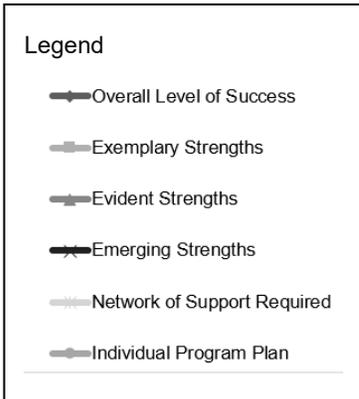
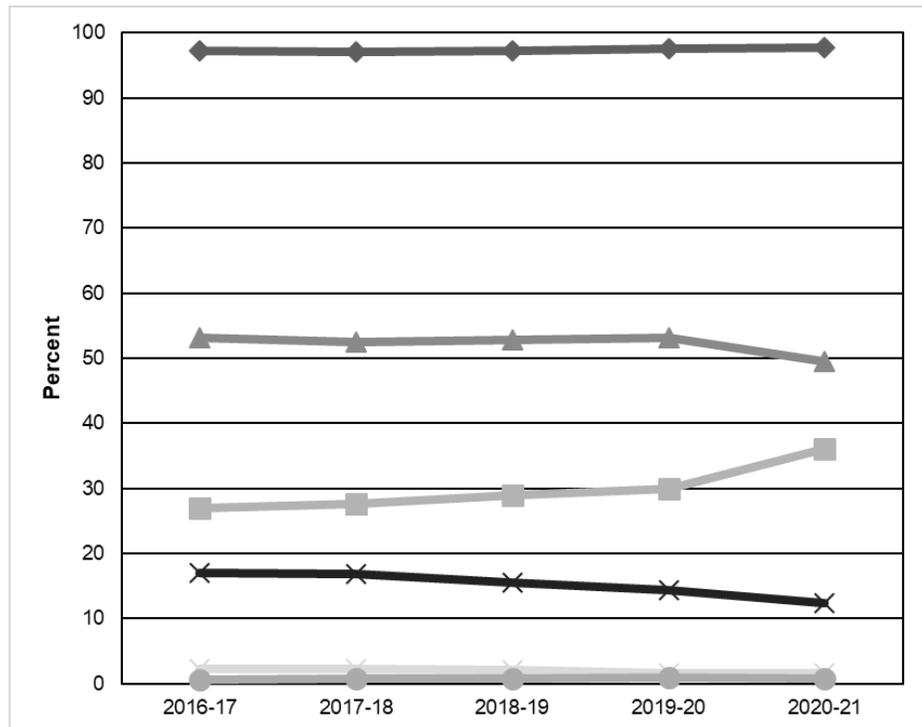


<sup>4</sup> The general indicators for this stem are:

- generates goals based on self-assessment, learning criteria, and personal interests;
- plans a strategic approach to meeting goals, solving problems and performing tasks;
- modifies and improves learning strategies based on experience and feedback; and
- explores ideas and initiates processes for learning.

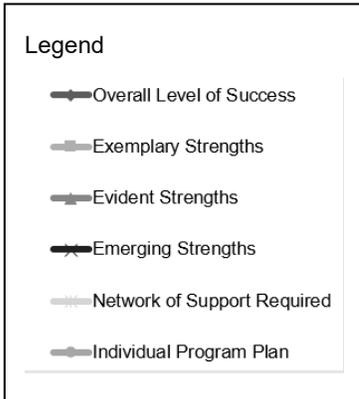
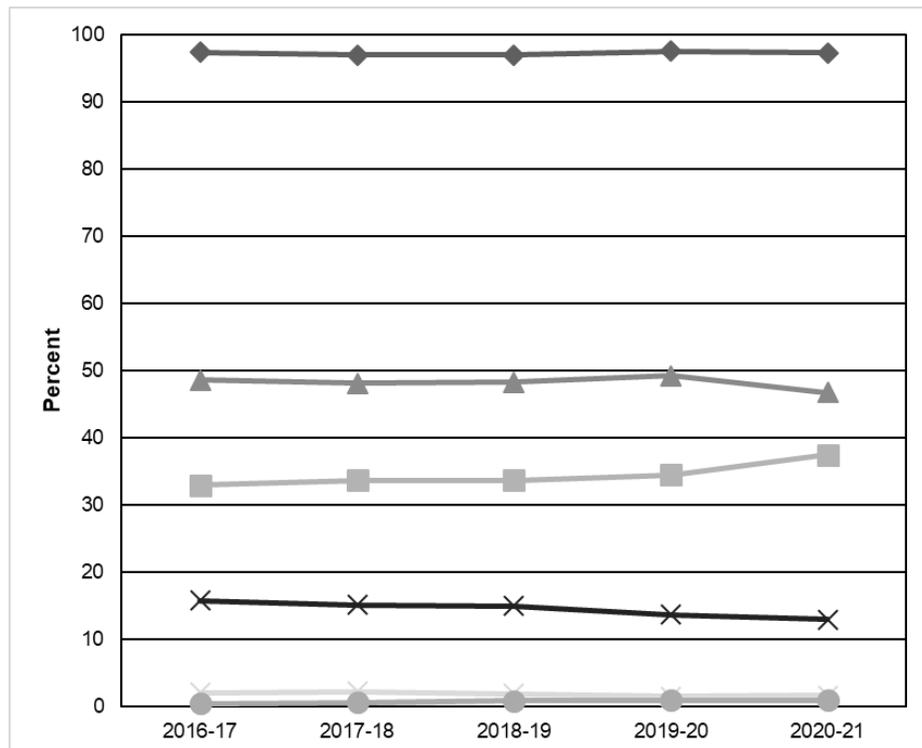
Division 1

Sets and works toward learning goals (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	27.0	27.6	28.9	30.0	36.0
<b>Evident Strengths</b>	53.1	52.5	52.8	53.1	49.4
<b>Emerging Strengths</b>	17.0	16.9	15.5	14.4	12.3
<b>Network of Support Required</b>	2.3	2.3	2.0	1.6	1.5
<b>Individual Program Plan</b>	0.6	0.7	0.8	0.9	0.8
<b>Overall Level of Success</b>	<b>97.2</b>	<b>97.0</b>	<b>97.2</b>	<b>97.5</b>	<b>97.7</b>



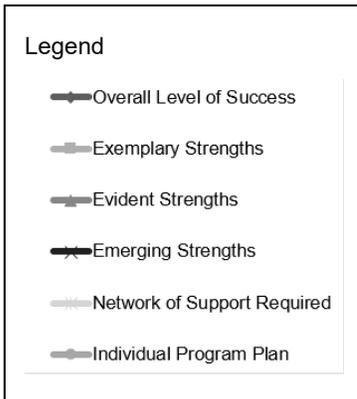
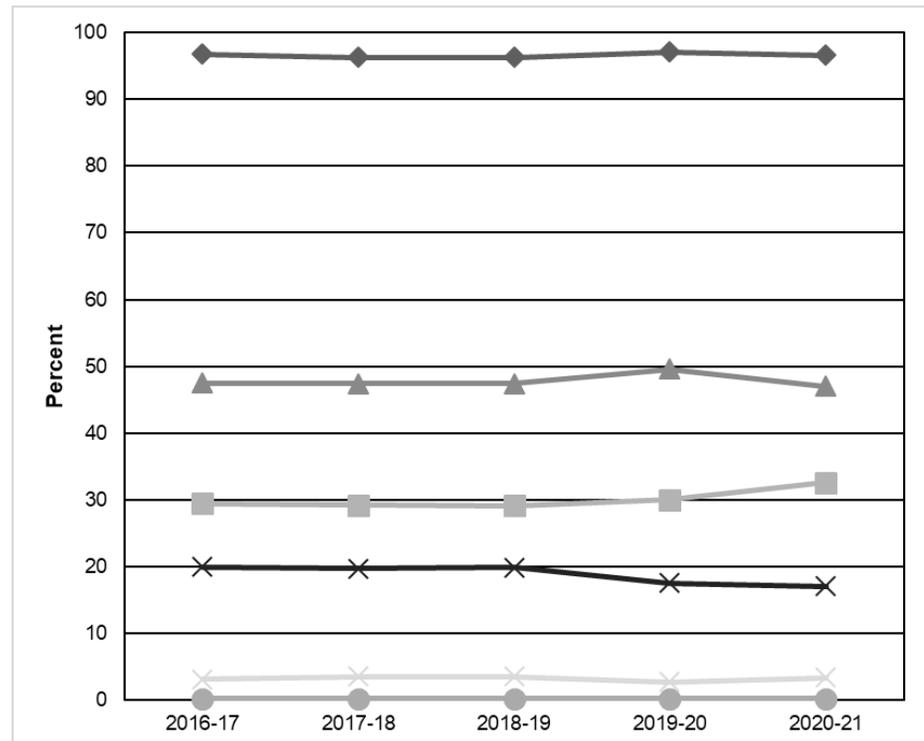
**Division 2**

Sets and works toward learning goals (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	33.0	33.7	33.7	34.5	37.5
<b>Evident Strengths</b>	48.6	48.1	48.3	49.3	46.8
<b>Emerging Strengths</b>	15.8	15.2	15.1	13.6	13.0
<b>Network of Support Required</b>	2.1	2.3	2.0	1.6	1.7
<b>Individual Program Plan</b>	0.5	0.7	0.9	1.0	1.0
<b>Overall Level of Success</b>	<b>97.4</b>	<b>97.0</b>	<b>97.0</b>	<b>97.5</b>	<b>97.3</b>



Division 3

Sets and works toward learning goals (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
Exemplary Strengths	29.4	29.2	29.1	30.0	32.6
Evident Strengths	47.5	47.4	47.4	49.6	47.0
Emerging Strengths	19.8	19.7	19.8	17.5	17.1
Network of Support Required	3.1	3.5	3.5	2.7	3.3
Individual Program Plan	0.2	0.2	0.2	0.2	0.2
<b>Overall Level of Success</b>	<b>96.8</b>	<b>96.3</b>	<b>96.3</b>	<b>97.1</b>	<b>96.6</b>



- **Target for 2020-21:** No target set

- **Analysis**

**All Students:** Despite a decrease in 2020-21, the result of Overall Level of Success was significantly higher than the previous three-year average based on the Chi-Square test. Exemplary Strengths displayed a strong upward trend and reached the highest level in 2020-21 across five years.

To determine improvement in Network of Support Required and Individual Program Plan, the percentage of students in these categories should decrease. Network of Support Required decreased significantly compared with the previous three-year average by test. For Individual Program Plan, following a continuous three-year increase from 2016-17 to 2018-19, the results have maintained at a level of 0.7% for the last two years.

**Division 1:** Except for a slight decrease in 2017-18, the Overall Level of Success results had improved performance across the five years. Of note, a significant increase of 0.5 percentage points was observed in 2020-21 when comparing to the previous three-year average. Similar to the All Students cohort, Exemplary Strengths showed a strong upward trend over time.

Moreover, Network of Support Required displayed a continuously decreasing pattern over five years. The decrease in the Network of Support Required results was significant by test. However, despite a 0.1 percentage point decrease in 2020-21, Individual Program Plan showed a slightly upward trend over time.

**Division 2:** Similar patterns to the All Students results were observed.

**Division 3:** Similar to the changes in All Students, Division 3 students showed declined results in Overall Level of Success in 2020-21. However, it was not significant based on the Chi-Square comparison to the previous three-year average. After a two-year year-over-year decrease, Exemplary Strengths increased from 2018-19 to 2020-21, reaching the highest result in 2020-21. Moreover, the improvement was significant by test.

Additionally, following a significant decline in 2019-20, the result of Network of Support Required saw a notable increase in 2020-21. Individual Program Plan remained at a stable level of 0.2% across the five reported years.

- **Interpretation**

For the All Student cohort, while the Overall Level of Success in 2020-21 decreased from the previous year's result, as compared to the previous three-year average, the result was statistically significantly higher. Further, though the Network of Support Required increased over the previous year, the result was significantly lower as compared to the previous three-year average.

The results in Exemplary Strengths for all cohorts saw increases over the previous year. The increases in Network of Support Required results in two of the three cohorts were the reasons for the lower Overall Level of Success results.

#### Policy 4.2 Indicator 2

2. Percentage of high school students who report they are able to set goals for themselves and work towards them; as measured by Overall Agreement on the **Self-Improvement Summary Measure** on CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

#### Policy 4.2 Indicator 3

3. Percentage of high school students who report they raise questions and bring their own ideas to learning tasks; as measured by Overall Agreement on the **Self-Advocacy Summary Measure** on CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

#### Policy 4.2 Indicator 4

4. Percentage of high school students who report they use feedback and past experiences to improve their learning; as measured by Overall Agreement on the **Self-Reflection Summary Measure** on CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

### **Policy 4.3**

#### Policy 4.3 Indicator 1

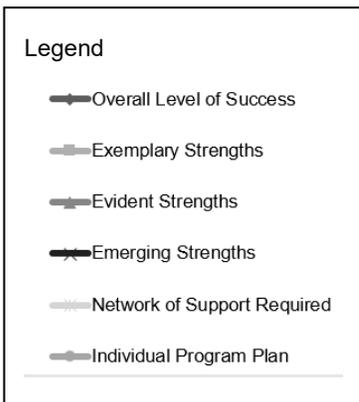
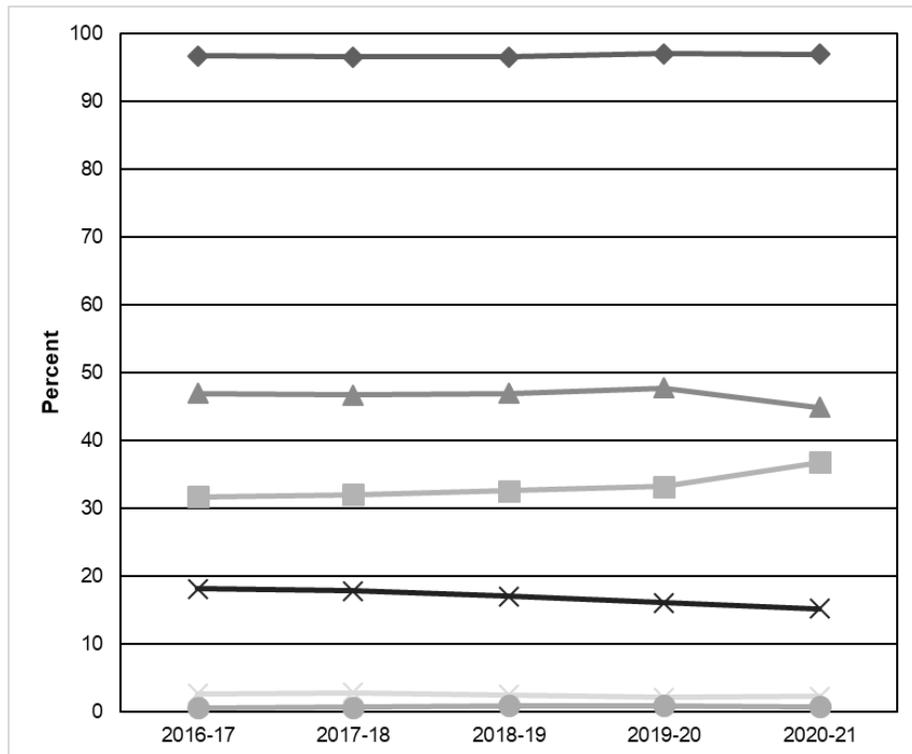
1. Percentage of students in kindergarten to grade 9 reported to engage in learning with confidence and persistence; as measured by student report cards.

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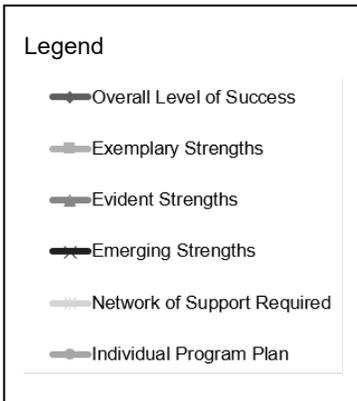
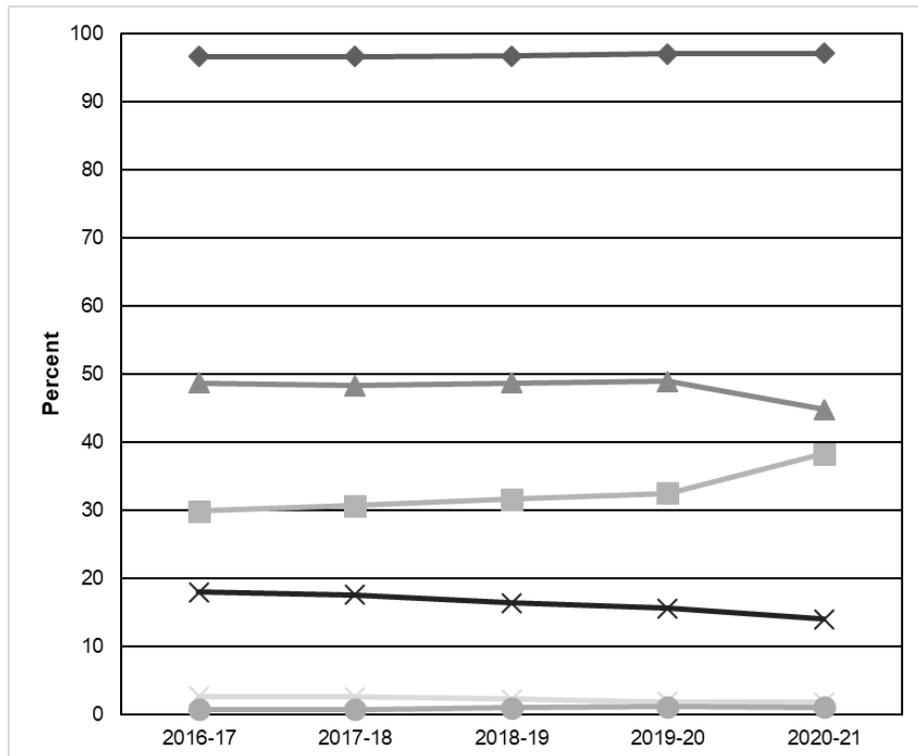
All Students

Engages in learning with confidence and persistence (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	31.7	32.0	32.6	33.2	36.8
<b>Evident Strengths</b>	46.9	46.7	46.9	47.7	44.9
<b>Emerging Strengths</b>	18.1	17.8	17.1	16.1	15.2
<b>Network of Support Required</b>	2.7	2.8	2.5	2.1	2.3
<b>Individual Program Plan</b>	0.6	0.7	0.9	0.9	0.8
<b>Overall Level of Success</b>	<b>96.7</b>	<b>96.5</b>	<b>96.5</b>	<b>97.0</b>	<b>96.9</b>



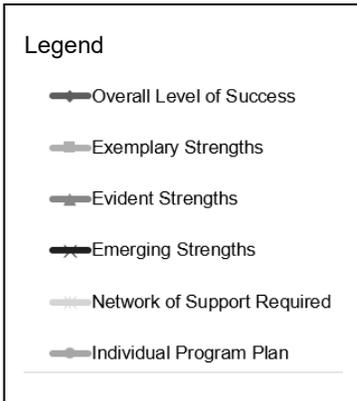
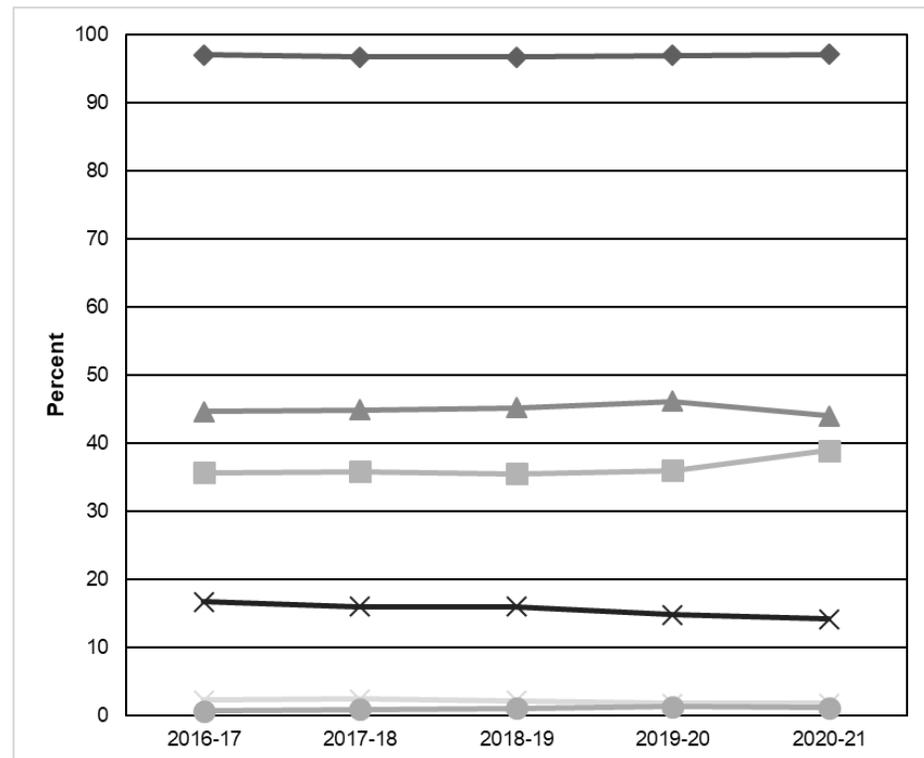
Division 1

Engages in learning with confidence and persistence (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	29.9	30.7	31.6	32.5	38.3
<b>Evident Strengths</b>	48.6	48.3	48.7	48.9	44.8
<b>Emerging Strengths</b>	18.0	17.6	16.4	15.5	14.0
<b>Network of Support Required</b>	2.7	2.6	2.3	1.9	1.8
<b>Individual Program Plan</b>	0.8	0.8	1.0	1.2	1.1
<b>Overall Level of Success</b>	<b>96.6</b>	<b>96.6</b>	<b>96.7</b>	<b>97.0</b>	<b>97.1</b>



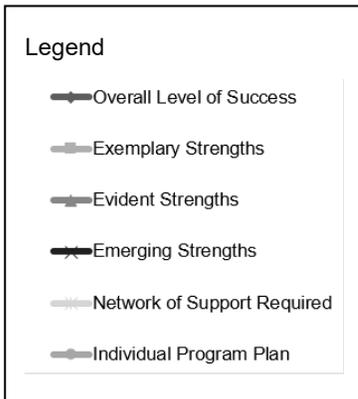
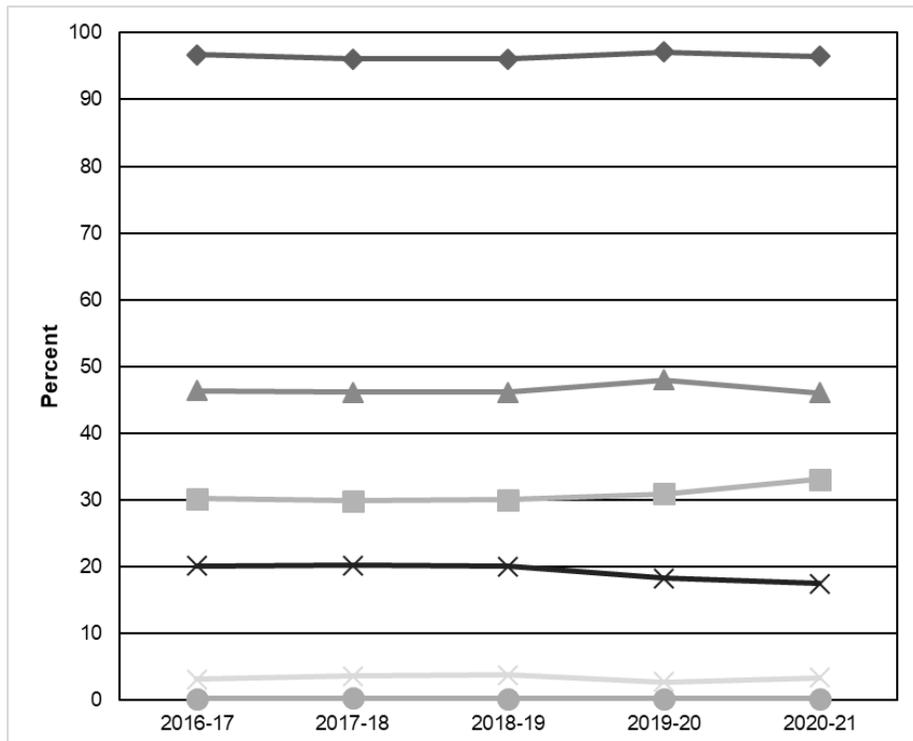
Division 2

Engages in learning with confidence and persistence (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	35.7	35.8	35.5	36.0	38.9
<b>Evident Strengths</b>	44.6	44.9	45.2	46.1	44.0
<b>Emerging Strengths</b>	16.7	16.0	16.0	14.8	14.1
<b>Network of Support Required</b>	2.3	2.4	2.2	1.8	1.8
<b>Individual Program Plan</b>	0.7	0.9	1.1	1.3	1.2
<b>Overall Level of Success</b>	<b>97.0</b>	<b>96.7</b>	<b>96.7</b>	<b>96.9</b>	<b>97.1</b>



Division 3

Engages in learning with confidence and persistence (%)					
Indicator	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Exemplary Strengths</b>	30.2	29.8	30.0	30.9	33.1
<b>Evident Strengths</b>	46.4	46.1	46.1	48.0	46.0
<b>Emerging Strengths</b>	20.1	20.2	20.0	18.2	17.4
<b>Network of Support Required</b>	3.1	3.6	3.7	2.7	3.3
<b>Individual Program Plan</b>	0.2	0.3	0.2	0.2	0.2
<b>Overall Level of Success</b>	<b>96.7</b>	<b>96.1</b>	<b>96.1</b>	<b>97.1</b>	<b>96.5</b>



- **Target for 2020-21:** No target set

- **Analysis**

**All Students:** The Overall Level of Success had some minor fluctuations across five years. Despite the decrease in 2020-21, the result was significantly higher than the previous three-year average. Moreover, Exemplary Strengths showed a strong upward trend across five years.

To determine improvement in Network of Support Required and Individual Program Plan, the percentage of students in these categories should decrease. For Network of Support Required, the year-over-year decreases from 2016-17 to 2019-20 were followed by an increase in 2020-21. Individual Program Plan showed a gradual increasing pattern from 2016-17 to 2019-20; however, a 0.1 percentage point decrease was observed in 2020-21.

**Division 1:** Division 1 students shared the similar patterns of Exemplary Strengths and Individual Program Plan with the All Students cohort. However, Overall Level of Success in Division 1 showed a gradual upward trend and reached the highest percentage in 2020-21 for the five years while Network of Support Required displayed a continuously decreasing tendency.

**Division 2:** Recovering from the lowest level of 96.7% in 2017-18 and the following year, the results of Overall Level of Success showed year-over-year improvement for last two years. Exemplary Strengths showed an increasing trend over time despite a slight decrease in 2018-19. The result in 2020-21 was significantly higher than the previous three-year average.

For Network of Support Required, the results maintained at a level of 1.8% for the last two years, which was significantly lower than the previous three-year average by test. Individual Program Plan showed an increasing pattern in the results over time.

**Division 3:** The changing pattern of Overall Level of Success in Division 3 is similar to that in the All Students cohort. However, the result in 2020-21 was not significantly higher than the previous three-year average. Exemplary Strengths showed a gradual upward trend across five years. The result of Network of Support Required showed a 0.6 percentage point increase in 2020-21 while Individual Program Plan maintained at a low level of 0.2%.

- **Interpretation**

While CBE's Overall Level of Success results saw significant improvement over the previous three-year average, the improvement was varied across cohorts.

An upward trend of the percentage of students in Exemplary Strengths across all three divisions substantiates the improvement. This trend is consistent over the five years, indicative of significant improvement in CBE results.

The results of a higher percentage of students reported in the Network of Support Required category, is a change from previous years' declines. This reversal demonstrates more focused attention is required for students in this category for improvement to occur.

#### Policy 4.3 Indicator 2

2. Percentage of high school students who report they are comfortable learning about things that don't have a single right answer; as measured by the **Ambiguity and Complexity Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

#### Policy 4.4

#### Policy 4.4 Indicator 1

1. Percentage of students who report they try new things in their learning even when they are not guaranteed success; as measured by Overall Agreement on the **Risk-taking Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

## **Policy 4.5**

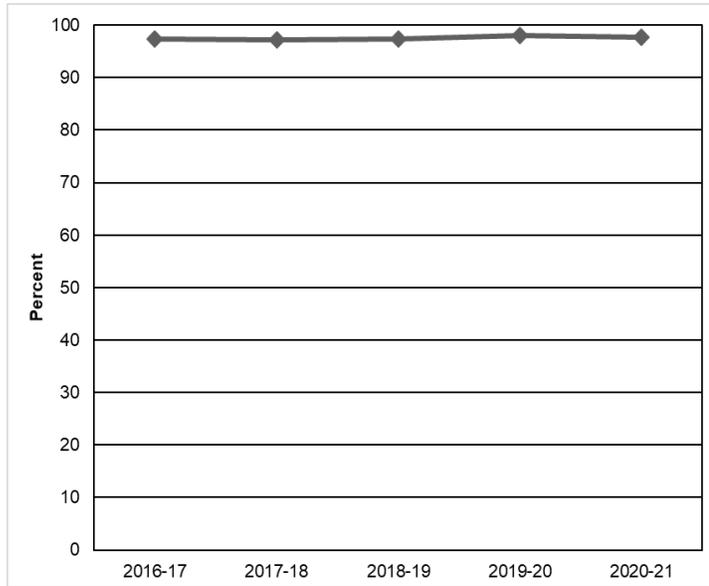
### Policy 4.5 Indicator 1

1. Percentage of students experiencing success with the learning outcomes of the Health/CALM Programs of Study; as measured by student report cards.

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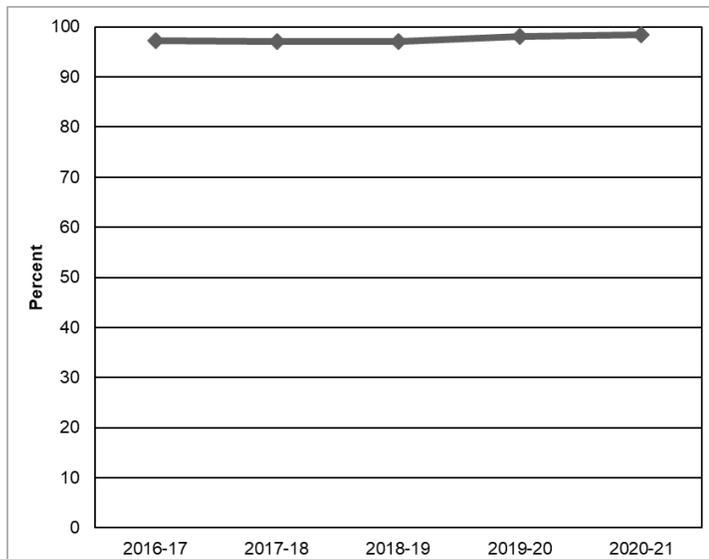
**All Students**

<b>Students experiencing success with Health/CALM learning outcomes. (%)</b>				
<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
97.4	97.2	97.3	98.1	97.7



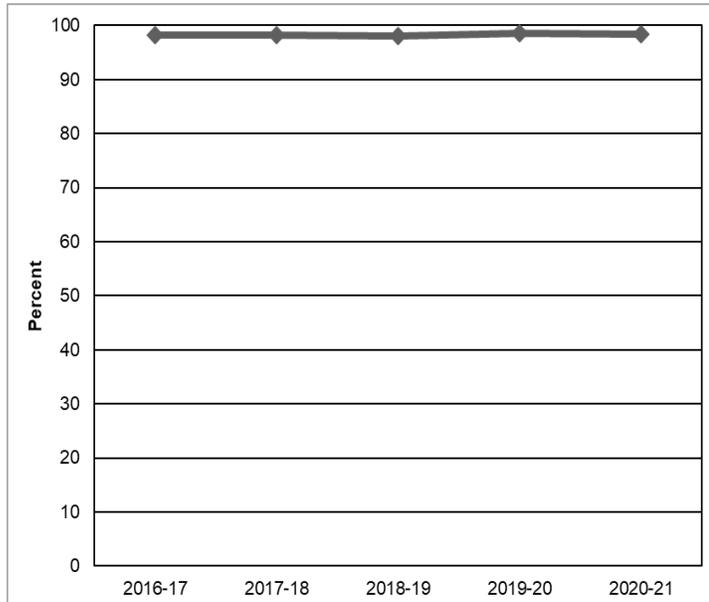
**Division 1**

<b>Students experiencing success with Health/CALM learning outcomes. (%)</b>				
<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
97.2	97.0	97.1	98.1	98.4



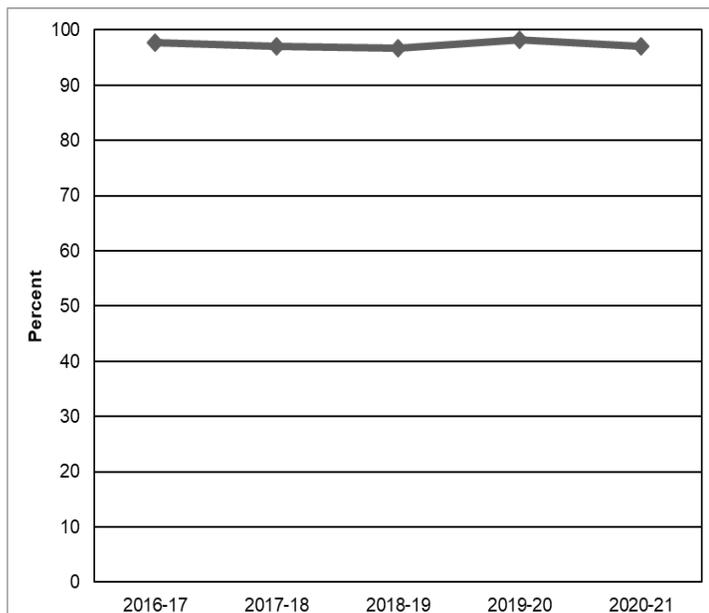
**Division 2**

<b>Students experiencing success with Health/CALM learning outcomes. (%)</b>				
<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
98.3	98.2	98.0	98.5	98.4



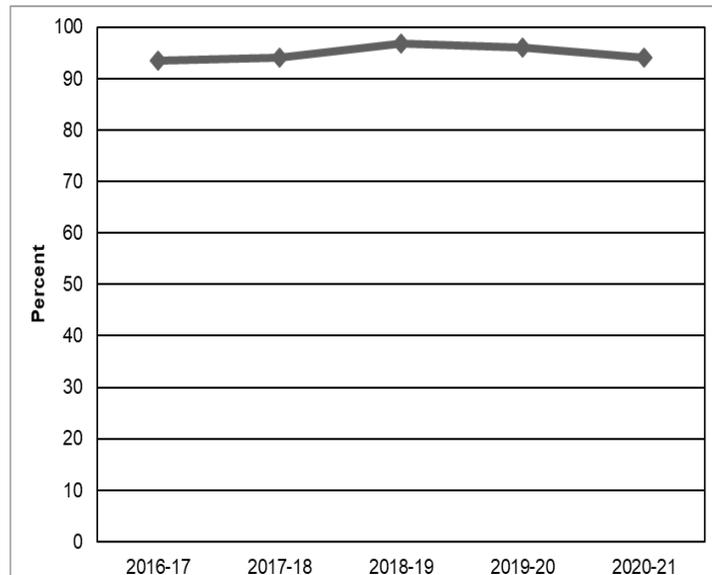
**Division 3**

<b>Students experiencing success with Health/CALM learning outcomes. (%)</b>				
<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
97.8	97.1	96.7	98.2	97.1



**Division 4**

Students experiencing success with Health/CALM learning outcomes. (%)				
2016-17	2017-18	2018-19	2019-20	2020-21
93.5	94.1	96.7	96.0	94.0



- **Target for 2020-21:** No target set
- **Analysis**

**All Students:** Despite a 0.4 percentage point decrease in 2020-21, the Health/CALM success rate continued to maintain at a high level of 97.7%, which was consistently higher than the results before 2019-20. Moreover, the result in 2020-21 was significantly higher than the previous three-year average according to Chi-Square comparison result.

**Division 1:** The Health success rate in Division 1 displayed a general upward trend over time. Since 2017-18, the results showed continuous increases and reached the highest level of 98.4% in 2020-21, which was significantly higher than the previous results.

**Division 2:** After a significant 0.5 percentage point increase in 2019-20, the result in 2020-21 continued to maintain at a level around 98.5%, which was notably higher than the results in three of the four previous years. Moreover, as compared to the Health/CALM success rates in other divisions, Division 2 students generally achieved stronger results over time.

**Division 3:** The success rate results did not display a consistent pattern over the five years. Similar to Division 2 students, the highest level of achievement was reached in 2019-20 while a notable decrease of 1.1 percentage points followed in 2020-21. Based on Chi-Square comparison test, the 97.1% success rate in 2020-21 was not significantly lower than the previous three-year average.

**Division 4:** Following a two-year continued increase from 2016-17, the CALM success rate in Division 4 decreased and dropped to the lowest achievement level of 94.0% in 2020-21. According to Chi-Square test, the decline was statistically significant.

- **Interpretation**

The CBE overall success results showed significant improvement as compared to the previous three-year average. That improvement is inconsistent across divisions, warranting more focused attention by student division.

Student results in Divisions 1 and 2 are significantly higher than in previous years, demonstrating a consistent upward trend. Divisions 3 and 4 demonstrate inconsistent results following short periods of improvement.

The notable differences between results by division precipitates specific attention to the learning outcomes and indicators of learner success, as measured by report cards.

2. Percentage of students who report they make decisions that keep them physically healthy; as indicated by the Overall Agreement of the **Physical Health Summary Measure** from CBE Student Survey.

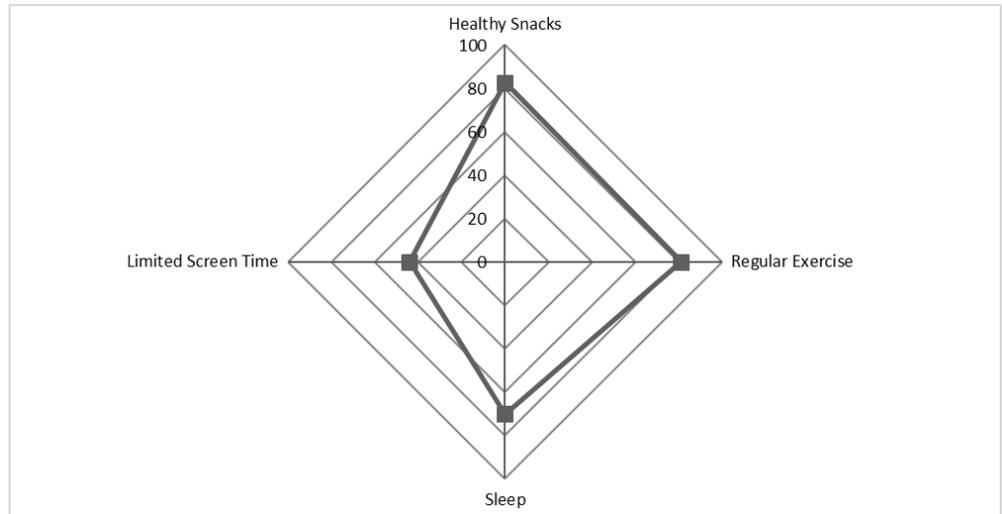
<b>Physical Health Summary Measure</b>				
	2017-18 <sup>5</sup>	2018-19	2019-20 <sup>6</sup>	2020-21
Overall Sample Size	71 422	35 445	n/a	30 869
Overall Agreement (%)	69.5	67.5	n/a	69.5

<b>Physical Health Summary Measure by Grade</b>				
Overall Agreement (%)	2017-18	2018-19	2019-20 <sup>6</sup>	2020-21
Grade 5	81.5	79.6	n/a	80.6
Grade 6	78.5	76.1	n/a	74.0
Grade 8	67.7	65.9	n/a	67.0
Grade 9	64.2	62.5	n/a	64.9
Grade 11	63.1	60.6	n/a	62.9
Grade 12	61.8	60.4	n/a	63.2

<b>Question Theme</b>	<b>Overall Agreement (%)</b>			
	2017-18	2018-19	2019-20 <sup>6</sup>	2020-21
Healthy Snacks	77.4	74.6	n/a	82.7
Regular Exercise	83.7	81.5	n/a	81.2
Sleep	69.3	66.4	n/a	70.1
Limited Screen Time	47.6	47.6	n/a	44.1

<sup>5</sup> As a result of an error in the survey program software, student results were counted twice. This has no effect on the percentage results. The sample size should be half of what is noted here.

<sup>6</sup> CBE Student Survey was not administered in 2019-20.



- **Target for 2020-21:** At or above 68%

Target met

- **Analysis**

Compared with the results in 2018-19, there was a significant increase in the Overall Agreement of the Physical Health Summary Measure by Chi-Square test. Across different grades, all grades excluding Grade 6 achieved higher agreement in 2020-21 in comparison to the corresponding results in 2018-19.

With regard to the Overall Agreement for each question, students showed percentage degree of agreement in the seventies and eighties with Healthy Snacks, Regular Exercise and Sleep questions. However, the percentage agreement of the Limited Screen Time question was significantly lower than other questions.

As compared to the performances in 2018-19, Healthy Snacks and Sleep agreements increased while the percentages of agreement towards Regular Exercise and Limited Screen Time decreased. Based on the Chi-Square comparison to the previous two-year average, all changes were statistically significant.

- **Interpretation**

CBE is pleased to have met the target for Overall Agreement. All grades, with the exception of Grade 6, saw an increase in Overall Agreement.

While the level of agreement in Healthy Snacks, Regular Exercise and Sleep were in the seventies and eighties, of note is the continued low agreement regarding Limited Screen Time. Moves to online learning over the course of the year as well as the reliance on technology for connection with family and friends likely impacted the agreement level when responding to “I take care of myself by making sure I don’t have too much screen time.”

Student Overall Agreement regarding Healthy Snacks and Sleep demonstrated notable improvements since 2018-19, while overall agreement regarding Regular Exercise and Limited Screen Time decreased.

Policy 4.5 Indicator 3

3. Percentage of students who report they make decisions that keep them socially healthy; as indicated by the Overall Agreement of the **Social Health Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

4. Percentage of students who report they make decisions that keep them emotionally healthy; as indicated by the Overall Agreement of the **Emotional Health Summary Measure** from CBE Student Survey.

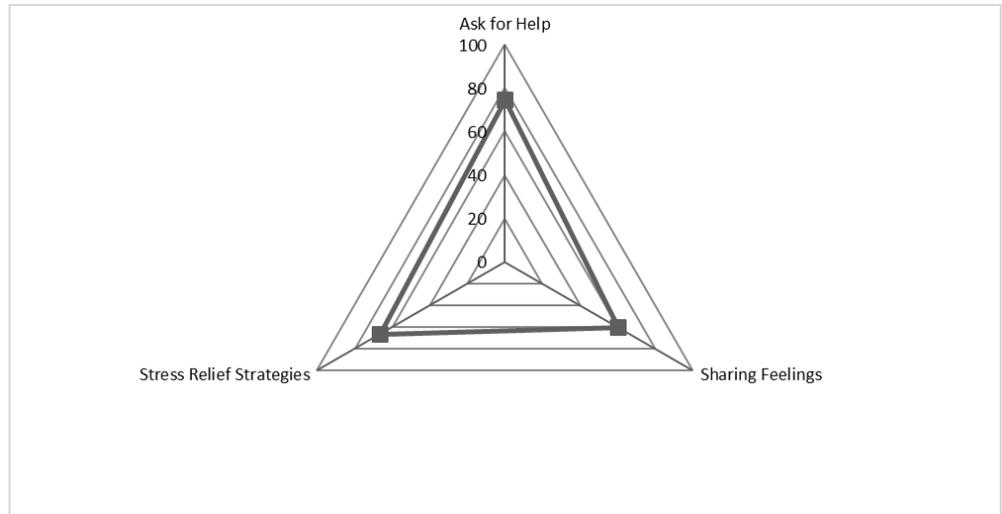
<b>Emotional Health Summary Measure</b>				
	<b>2017-18<sup>7</sup></b>	<b>2018-19</b>	<b>2019-20<sup>8</sup></b>	<b>2020-21</b>
Overall Sample Size	74 306	35 357	n/a	30 577
Overall Agreement (%)	69.6	68.7	n/a	67.2

<b>Emotional Health Summary Measure by Grade</b>				
<b>Overall Agreement (%)</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20<sup>8</sup></b>	<b>2020-21</b>
Grade 5	78.2	76.4	n/a	75.5
Grade 6	73.6	72.2	n/a	70.4
Grade 8	64.1	61.9	n/a	62.0
Grade 9	64.5	63.0	n/a	61.4
Grade 11	67.7	68.7	n/a	65.1
Grade 12	69.2	70.0	n/a	68.6

<b>Question Theme</b>	<b>Overall Agreement (%)</b>			
	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20<sup>8</sup></b>	<b>2020-21</b>
Ask for Help	78.7	74.5	n/a	74.7
Sharing Feelings	59.8	61.2	n/a	60.3
Stress Relief Strategies	70.2	70.4	n/a	66.6

<sup>7</sup> As a result of an error in the survey program software, student results were counted twice. This has no effect on the percentage results. The sample size should be half of what is noted here.

<sup>8</sup> CBE Student Survey was not administered in 2019-20.



- **Target for 2020-21:** At or above 69%

Target not met

- **Analysis**

The Overall Agreement of the Emotional Health Summary Measure decreased significantly in 2020-21, compared with the previous results. Except for Grade 8 students, students in other grades consistently showed lower degree of agreement than the relative results in 2018-19. There was a notable 3.6 percentage point decrease from 2018-19 to 2020-21 Grade 11 results.

Among questions asked, the percentage of agreement from largest to smallest was Ask for Help, Stress Relief Strategies and Sharing Feelings. The ranking patterns were also observed in past years. A notable increase in Ask for Help question occurred in 2020-21 while the Overall Agreement percentages of Sharing Feelings and Stress Relief Strategies decreased in 2020-21. Moreover, when compared to the previous two-year averages, the 2020-21 Overall Agreement of Ask for Help and Stress Relief Strategies were significantly lower by test.

- **Interpretation**

There is a notable 3.6 percentage point gap between 2018-19 and 2020-21 results in Grade 11, yet there is an underlying trend linked to Grade 11. Their Overall Agreement when in grade 8 in 2017-18 was 64.1% and in grade 9 in 2018-19 was 63.0%. Thus, this cohort has a slight increase in their overall agreement over three years, even though the overall results for Grade 11 in CBE declined over the same period of time.

However, grade 6 students in 2018-19 reported an Overall Agreement of 72.2%. Two years later, in 2020-21 this cohort now in grade 8 reported an overall agreement of only 62.0%. This is a statistically significant decline, during a time period of great global social and institutional change.

## Policy 4.6

### Policy 4.6 Indicator 1

1. Percentage of students who report they can use technology to help them learn; as measured by Overall Agreement of the **Learning Technology Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

### Policy 4.6 Indicator 2

2. Percentage of students who report they use technology to explore personal interests and ideas; as measured by Overall Agreement of the **Technological Fluency Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

### Policy 4.6 Indicator 3

3. Percentage of students who report they use technology to communicate effectively with others; as indicated by Overall Agreement of the **Technological Communication Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

### Policy 4.6 Indicator 4

4. Percentage of students who report they can assess critically information presented in online environments; as measured by Overall Agreement of the **Technological Critical Thinking Summary Measure** from CBE Student Survey.

Results 4: Personal Development was a minor focus on the 2020-21 CBE Student Survey. The questions that inform this summary measure were not asked.

## Building Capacity |

The following is the list of next steps based on the analysis provided in this report.

### Professional Learning

By increasing staff capacity through significant investment in professional learning, student personal development results will improve. Specifically, professional learning will be developed, intended to support:

- Staff in designing lessons that build student resilience and perseverance to overcome failure and adapt to change.
- Kindergarten communities of practice to enhance understanding of developmentally appropriate practice including the role of play in learning to support students in taking appropriate risks in their learning.
- Teachers' instructional practice reflective of understanding equity, diversity, inclusion and well-being.
- Teachers in implementing strategies focused on developing student belonging.
- Staff in understanding and implementing strategies in alignment with Comprehensive School Health.
- Teachers to know their English language learners' culture and cultural identity, language proficiency, learner profile, interest and readiness levels, and use of the Revised Alberta K-12 ESL Proficiency Benchmarks through a cohort Focus Group.
- Book study on *Breaking Down the Wall. Essential Shifts for English Learners' Success*, focused on engaging students by connecting instruction to all students' personal, social, cultural and linguistic identities facilitated.
- Staff in building foundational knowledge of the Indigenous Education Holistic Lifelong Learning Framework and to support the establishment of conditions under which the learning aspirations and the potential of Indigenous students will be realized.
- Teachers in specialized classes with best practices in meeting the needs of students.
- School staff with the use of inclusive and assistive technologies.
- All school staff in understanding high impact strategies to support students with special needs through a series of pre-recorded professional learning sessions on topics such as Autism Spectrum Disorder (ASD), student regulation, social skills, curriculum modifications, assessment and reporting and transition planning.
- Staff in schools with technology integration and task design.

## Structures & Processes

The following structures and processes will be utilized in support of student achievement of Results 4 and access to supports across a range of areas:

- Design a Well-Being SDP goal with instructional actions and measures focused on developing and monitoring at least one of student resiliency, self-regulation skills, connection, sense of belonging, personal well-being, goal orientation, social engagement, emotional health and use of success criteria.
- Support Well-being Champion teachers in all schools in areas focused on:
  - determinants of health;
  - dimensions of well-being;
  - relationship between health and learning; and
  - moving from health education to health promotion
- Enhance system (Education Director school visits, School Development Plan sessions, Area Leadership meetings) and school-based structures and processes for collection and use of student data to monitor and inform system and school actions regarding the achievement and well-being of all students including those who self-identify as Indigenous, English language learners and students with identified special needs.
- Advance CBE CARES (Collaboration for Anti-Racism, Equity Supports) by developing a system-wide professional learning plan with strategies to advance anti-racism, diversity and inclusion.
- Implement Collaborative Response school and system-based structures and processes in order to meet the holistic needs of each students and support them to assume responsibility for personal well-being.
- Design, support and implement a system wide professional learning day for Indigenous Education inclusive of all employees on October 18, 2021.
- Offer targeted professional learning and resources to schools based on data from their Truth and Reconciliation Commission (TRC) Commitments and to employees based on data gathered on October 18.
- Support the preschool program at Niitsitapi Learning Centre to provide a strength-based early learning environment with a focus on building a strong sense of Indigenous identity and a robust academic foundation.
- Facilitate collaboration among CBE and Indigenous Elders, leaders, organizations and community members to establish strategic direction in support of Indigenous student achievement, well-being, and professional learning of all staff.
- Administer the Educational Technology System Survey to gather data about school use and impact of system-supported tools and resources, digital learning practices, student needs and teacher professional learning requirements to inform and align system professional learning and supports tied to the use of current and emerging technologies.
- Provide School Technology Planning support to improve short- and long-term planning for the implementation of learning technologies in schools.

- Design structures and processes for all students to safely access online tools such as Brightspace by D2L and Google Classroom.

## Resources

The following resources will be created and made accessible in support system and school needs.

- Create a Student Well-being Framework supporting the system and schools in focused action and supports related to overall school environment and student well-being needs.
- Create and utilize vetting tools and resource guides in support of teachers to access resources reflective of diversity and inclusion in classrooms.
- Using the Joint Consortium for School Health Comprehensive School Health approach, develop resources to support student well-being.
- Design and share resources in support of: transition of self-identified Indigenous students moving from grade 9 to 10; Aboriginal Studies 10, 20, 30; the Indigenous Education Holistic Lifelong Learning Framework; events throughout the school year (e.g., Orange Shirt Day, Indigenous Veterans Day, National Indigenous Peoples Day); Community Resource Guide for Indigenous families; and professional learning needs identified by staff and to support goals within School Development Plans.
- Highlight and offer resources via Insite to support schools with events throughout the school year (e.g., Orange Shirt Day, Indigenous Veterans Day, National Indigenous Peoples Day).
- Gather, analyze, share and reflect upon survey data with schools and system teams from the October 18 Indigenous Education Professional Learning Day.
- Update and share online Community Resource Guide to support Indigenous families to access community supports.



## Targets |

Targets are identified where the Chief Superintendent sees an opportunity for growth or where the Board of Trustees identifies an area of concern or exception.

One indicator in Results 4 is based on an Alberta Education Assurance Measure, three are based on report card data and the remaining fourteen indicators are tied to survey data.

Given the change in methodology by Alberta Education, there are not enough Annual Returning Rate data to determine a trend. The report card results are very high and so, not an opportunity for growth. Results 4 will be a minor focus on the 2021-22 CBE Student Survey and given the impact of the pandemic on students, it seems prudent to wait until there is a complete data set for Results 4 before considering targets.

It is for these reasons no targets have been set for 2021-22 in this report.

## APPENDIX

Appendix I: Results 4 | CBE Student Survey Questions & 2020-21 Results

## Results 4 | CBE Student Survey Questions & 2020-21 Results

**Note** | the numbers in the square brackets refer to the grades of students who would be asked this question.

### Policy 4.1

#### Indicator 2 – Resiliency and Perseverance Summary Measure

Question	Overall Achievement (%)
1   I feel confident I can overcome challenges in my learning.	n/a
2   When I struggle with my school work, I can get through it and fix it.	n/a
3   I try hard at school even when I find it challenging to succeed in my learning.	n/a
4   I want to keep learning even when I experience a setback.	n/a

#### Indicator 3 – Adaptability Summary Measure

Question	Overall Achievement (%)
1   I like learning new things at school even if I sometimes find it challenging.	n/a
2   I can adapt to new situations even when under stress or pressure (e.g., Provincial Achievement Test, Diploma Exam, pop quiz).	n/a
3   I can change to meet the needs of new situations at school.	n/a



## Policy 4.2

### Indicator 2 – Self-Improvement Summary Measure

Question	Overall Achievement (%)
1   [11,12] I want to set and achieve learning goals.	n/a
2   [11,12] I set goals for my learning and work towards them.	n/a
3   [11,12] I have the support I need from my school to set learning goals and work towards them.	n/a

### Indicator 3 – Self-Advocacy Summary Measure

Question	Overall Achievement (%)
1   [11,12] I ask questions in class when I have them.	n/a
2   [11,12] I bring my own ideas to learning tasks and activities at school.	n/a
3   [11,12] I am curious about the things I am learning at school.	n/a
4   [11,12] I can defend my thinking when I answer a question.	n/a

### Indicator 4 – Self-Reflection Summary Measure

Question	Overall Achievement (%)
1   [11,12] I can bounce back after a setback in my learning (e.g., an unexpected low mark).	n/a
2   [11,12] When I'm upset with someone, I try to take the perspective of that person for a while.	n/a
3   [11,12] I use feedback to improve my learning.	n/a

### Policy 4.3

#### Indicator 2 – Ambiguity and Complexity Summary Measure

Question	Overall Achievement (%)
1   [11,12] I can accept someone else's answer to a question even if it is different than my own.	n/a
2   [11,12] I am comfortable learning about things that may have more than one answer.	n/a
3   [11,12] I try to look at all sides of an issue before I make a decision.	n/a
4   [11,12] I understand that there are at least two sides to every issue and I try to understand them.	n/a

### Policy 4.4

#### Indicator 1 – Risk-taking Summary Measure

Question	Overall Achievement (%)
1   I am willing to try new things in my learning even if I'm not sure I will be successful.	n/a
2   When I learn about a new way to use school technology, I want to try it.	n/a
3   I try to join in when others are learning something I'm interested in.	n/a

### Policy 4.5

#### Indicator 2 – Physical Health Summary Measure

Question	Overall Achievement (%)
1   I take care of myself by choosing healthy snacks when I am able.	82.7
2   I take care of myself by exercising regularly when I am able.	81.2
3   I take care of myself by getting enough sleep when I am able.	70.1
4   I take care of myself by making sure I don't have too much screen time (e.g., TV, computer, tablet, cell phone).	44.1

### Indicator 3 – Social Health Summary Measure

Question	Overall Achievement (%)
1   I have positive relationships with friends and family.	n/a
2   I can easily make and keep friends.	n/a
3   I know when my friendships or relationships become negative or unhealthy.	n/a
4   If a relationship is no longer positive, I know what strategies I can use to address it.	n/a

### Indicator 4 – Emotional Health Summary Measure

Question	Overall Achievement (%)
1   I ask for help when I need it.	74.7
2   I talk to my caregivers, friends, classmates, and/or teachers about how I feel.	60.3
3   I have strategies that I can use for myself when I feel stressed about school.	66.6

## Policy 4.6

### Indicator 1 – Learning Technology Summary Measure

Question	Overall Achievement (%)
1   I use technology to help my learning.	n/a
2   I feel comfortable using the technology available at school to help me learn.	n/a
3   I have enough opportunity to use technology in my learning.	n/a

### Indicator 2 – Technological Fluency Summary Measure

Question	Overall Achievement (%)
1   I have the skills I need to use technology at school to help me in my learning.	n/a
2   When I learn about a new way to use school technology I want to try it.	n/a

### Indicator 3 – Technological Communication Summary Measure

Question	Overall Achievement (%)
1   I treat people with the same respect online as I would face-to-face.	n/a
2   I communicate online the same way I do face-to-face.	n/a
3   I am careful about what I share online.	n/a

### Indicator 4 – Technological Critical Thinking Summary Measure

Question	Overall Achievement (%)
1   When I see information online, I can tell if it is true or made up.	n/a
2   When I'm reading information online, I can tell if it is true or made up.	n/a
3   I trust the information I see online.	n/a

## OE-2: Learning Environment/Treatment of Students

Monitoring report for the  
school year 2021 - 2022

Report date:  
April 5, 2022

### CHIEF SUPERINTENDENT CERTIFICATION

With respect to Operational Expectations 2: Learning Environment/Treatment of Students, the Chief Superintendent certifies that the proceeding information is accurate and complete.

- In Compliance.
- In Compliance with exceptions noted in the evidence.
- Not in Compliance.



Signed: \_\_\_\_\_  
Christopher Usih, Chief Superintendent

Date: April 1, 2022

### BOARD OF TRUSTEES ACTION

With respect to Operational Expectations 2: Learning Environment/Treatment of Students, the Board of Trustees:

- Finds the evidence to be compliant.
- Finds the evidence to be compliant with noted exceptions.
- Finds the evidence to be not compliant.

### Summary statement/motion of the Board of Trustees:

Signed: \_\_\_\_\_  
Chair, Board of Trustees

Date: \_\_\_\_\_

**OE-2: Learning Environment/Treatment of Students**

## Executive Summary

The Board of Trustees believes that it is essential to establish and maintain a learning environment that is welcoming, caring, safe, respectful and conducive to effective learning for each student.

This Operational Expectation establishes the Board of Trustees values and expectations for the Calgary Board of Education's work in providing learning environments that support student success.

The Chief Superintendent's reasonable interpretation and indicators for OE 2: Learning Environment/Treatment of Students were approved on October 10, 2017. The Board of Trustees last monitored OE 2 on April 13, 2021. This report includes data available from the 2020-2021 school year and contains evidence to support the following findings:

<b>Policy Statement</b>	<b>Indicator</b>	<b>Finding</b>
2.1	2.1.1	Compliant
2.1	2.1.2	Non-Compliant
2.1	2.1.3	Compliant
2.1	2.1.4	N/A
2.1	2.1.5	Compliant
2.1	2.1.6	Compliant
2.1	2.1.7	Compliant

## OE-2: Learning Environment/Treatment of Students

The Board of Trustees believes that it is essential to establish and maintain a learning environment that is welcoming, caring, safe, respectful and conducive to effective learning for each student.

### Board-approved Interpretation

It is crucial that a learning environment is created and sustained that enables students to participate fully in their learning.

The Chief Superintendent interprets:

- *learning environment* to mean those situations when students are engaged in instruction and activities related to Alberta Education's Programs of Study and where students are supervised by Calgary Board of Education employees. Learning environments include approved off-site activities.
- *safe* to mean a learning environment that is free from potential harm to students and their well-being.
- *respectful* to mean a learning environment that is caring and where students feel they are treated fairly.
- *conducive to effective learning* to mean a learning environment that provides the conditions and encouragement necessary for students to achieve at the level appropriate to them. In this learning environment, students are engaged in their learning and are challenged to stretch and grow.

**OE-2: Learning Environment/Treatment of Students****Board-approved Interpretation**

The Chief Superintendent shall:

2.1	Provide safe and positive learning conditions for each student that foster a sense of belonging and a respect for diversity.	Non-Compliant
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CBE is responsible for creating a learning environment where students are welcomed and appreciated as unique individuals.

The Chief Superintendent interprets:

- *positive learning conditions* to mean circumstances and environments that are encouraging, supportive, stimulating and engaging.
- *sense of belonging* to mean that students know and understand that their participation in and contributions to learning are welcomed.
- *respect for diversity* to mean acceptance and inclusion of individuals exhibiting the full range of human characteristics and abilities (uniqueness within humanity).

**OE-2: Learning Environment/Treatment of Students**Board-approved Indicators and *Evidence of Compliance*

1. A clearly defined, system wide student code of conduct is implemented and reviewed annually.	Compliant
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*The organization is compliant with this indicator.*

*Evidence statement*

The Student Code of Conduct was reviewed in the 2020-2021 school year through a survey of the Inclusive Education department within School Improvement. Staff surveyed included system administration, occupational and physical therapists, psychologists, school family liaisons, specialists, strategists, speech language pathologists, and behaviour support workers. School Improvement had a 100% response rate. Of those respondents 99% noted that AR 6005 clearly outlines student responsibilities and acceptable behaviours. Of the 140 staff members surveyed, 72% review AR 6005 annually. Employees within Inclusive Education reported that they feel the information within the AR 6005 has a direct connection to their work in the following ways: multi-disciplinary meetings (school and area learning team processes, Attendance Improvement Plans, Student Information Systems), progressive student discipline, student learning plans, community partnerships, specialized assessments, report cards and student conferences. 100% of principals confirmed that they shared the Student Code of Conduct with students and staff.

**OE-2: Learning Environment/Treatment of Students**

2. 100% of schools complied with Administrative Regulation 3021– School Emergency Practices and Procedures.	Non-Compliant
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*The organization is non-compliant with this indicator.*

*Evidence statement*

For the 2020/2021 school year, the ability for schools to complete emergency practices such as fire drills and lockdowns was impacted by the ongoing COVID-19 situation. This included the government’s direction to shift to online learning in November 2020 through to mid-January 2021, coupled with Calgary Police Service and Calgary Fire Department not being in a position to support these drills. As a result, 2 schools missed the requirement to perform a fire drill prior to the end of September, 21 schools missed the requirement to perform three fire drills prior to December 15 and 63 and 69 schools missed the fall and winter lockdown drill requirements, respectively. In 2020, CBE administration developed changes to the monitoring and tracking of fire drills and evacuation procedures to improve performance regarding emergency response drills. Implementation of those changes continues throughout the 2020/2021 school year. Those changes are included in the capacity building section attached to this report.

**OE-2: Learning Environment/Treatment of Students**

3. The percentage of student responses indicating agreement with the safe and caring suite of questions from the Calgary Board of Education Annual Safe and Caring Schools result, as determined by Alberta Education's Accountability Pillar Survey will be maintained (plus or minus 2 percentage points).	Compliant
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*The organization is compliant with this indicator.*

*Evidence statement*

In the Spring of 2021, of the thousands of students, parents and teachers who responded to the Alberta Education Assurance (AEA) Survey, 88.4% agreed or strongly agreed that students are safe in school, are learning the importance of caring for others, are learning respect for others and are treated fairly in school. Within that overall percentage, 83.2% of student responses indicated agreement with the safe and caring suite of questions from The Calgary Board of Education Annual Safe and Caring Schools result. This is within the  $\pm 2$  percentage point's range of the previous year's result.

Alberta Education noted, "Caution should be used when interpreting survey results over time as 2020/21 was a pilot year for the AEA survey and participation was impacted by the COVID-19 pandemic."

**OE-2: Learning Environment/Treatment of Students**

4. Principals confirm that each volunteer has security clearance prior to beginning their volunteer service.	N/A
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*The indicator for this school year is not applicable for the reasons set out below.*

*Evidence statement*

Due to the COVID-19 global pandemic, CBE suspended the use of volunteers in CBE schools for the 2020/2021 school year. Therefore, schools reported that this indicator was not applicable for the school year. Schools have well defined processes to confirm volunteer police information check, with those processes resuming during the current school year.

5. Low recidivism for students having involvement with the CBE Attendance Team.	Compliant
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*The organization is compliant with this indicator.*

*Evidence statement*

CBE's Attendance Team supports students and schools to engage with students and families to promote student attendance. Families may have direct contact with the Attendance Team through a parent meeting to address attendance or through a hearing at the Attendance Board.

During the 2020-2021 school year, the Attendance Team has calculated a **recidivism rate of 42%**. This "recidivism" percentage includes students who have continued to experience attendance concerns based on Alberta Education's chronic absenteeism threshold of 10% or greater absenteeism. **Improvement in attendance was noted in 58% of students** who were referred to the Attendance Team and had direct involvement with the Attendance Team in 2020/2021 school year.

The recidivism rate of 42% was calculated based on 2020/2021 data set of 142 students who had direct involvement with the Attendance Team.

## OE-2: Learning Environment/Treatment of Students

Of these 142 students, 42 students (30%) transferred out of CBE for various reasons such as, moving out province or moving to the Unsupervised Home Education. Improvement in attendance was calculated at >5% from the date of referral to the last day of school.

As noted, involvement with the Attendance Team includes direct parent contact with the Attendance Counsellors or referrals to the Office of Student Attendance and Reengagement - Attendance Board, resulting in a Letter of Warning, Mediation or an Attendance Board hearing. In addition to direct involvement with 142 students mentioned above, the Attendance team had **515 consults** with schools in relation to specific students and **146 general consults** with schools regarding attendance policies and procedures.

During the 2020-2021 school year, a significant increase was noted in the number of attendance concerns brought forward to the Attendance Team. The evolving COVID-19 pandemic was a factor in that increase with many parents reporting Apprehension due to COVID-19 as a prominent concern.

6. Principals confirm that transitions between schools for students with Individual Program Plans have been supported through planning meetings and identified plans.	Compliant
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*The organization is compliant with this indicator.*

*Evidence statement*

Using a collaborative approach, schools plan for and communicate with each other and parents to support student transitions between schools. For the 2020/2021 school year 100% principals reported that transitions plans were in place for students. Schools adapted to providing continued transition planning during the COVID-19 pandemic with 100% of principals reporting that meetings occurred in support specific to transition planning. Transition plans are recorded for students with Individual Program Plans (IPPs) are recorded in those plans. High schools also provide transition planning to students moving to post-secondary.

## OE-2: Learning Environment/Treatment of Students

As schools transitioned between in person and online learning during COVID-19 schools made every effort possible to support students in those transitions. This included:

- realigning teaching assignments to support students individually or in small groups;
- when education assistants were available, ensuring students were able to connect with them where possible;
- ensuring consistent sequencing of courses with average hours of work for students each week;
- prioritization of core curriculum;
- ensuring Individual Program Plans were up to date as of the start of the pandemic;
- continuation of provisions in the Individual Program Plan and supports within the online learning environment;
- D2L shells focusing on physical activity and social emotional learning;
- providing short term and longer term resources to parents and students;
- provision of activities and ideas for division levels;
- providing as many computers as possible including sharing the resources offered through Lifeline by Lending Laptops and Alberta Computers for Schools and to Metis students through The Rupertsland Institute;
- provision of G Suite and Brightspace technical support for students and parents;
- provision of assessment and learning guidelines for ongoing learning;
- gathering and generating resources to assist teachers with students;
- facilitating professional development for teachers in online delivery and pedagogical best practices for basic facilitation of online student learning;
- continued support from Alberta Mental Health therapists offering sessions and support via telephone with provision of resources for isolation and continuance of psychiatry.

**OE-2: Learning Environment/Treatment of Students**

7. Principals confirm all requests for the establishment of student organizations promoting welcoming, caring respectful and safe learning environments are supported.	Compliant
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*The organization is compliant with this indicator.*

*Evidence statement*

Student clubs and activities were also impacted by the global COVID-19 pandemic in the 2020-2021 school year. Several schools reported that student club activity was restricted due to cohorting and other public health restrictions. No new student organizations or clubs were established during the 2020-2021 school year. One school reported a student expressed interest in establishing a GSA, which the school supported through discussions. The student and their parents decided to wait to seek establishment of the club.

106 schools reported receiving no requests for new student clubs (e.g. GSA, diversity clubs, etc.) during the 2020-2021 school year, a majority of which are elementary schools.

36.4% of schools specifically reported having a GSA club in existence. The remaining 63.6% advised that no requests had been made for a GSA with several schools reporting that staff were prepared to support a GSA if a request was made. All schools remain committed to a welcome, caring, safe and respectful learning environment that fosters diversity and a sense of belonging. Schools reported that students are supported by classroom teachers, area supports and the CBE's Sexual Orientation and Gender Identity (SOGI) team.

***Evidence demonstrates 5 of the 7 indicators in subsection 1 are in compliance and 1 is not applicable for this school year.***

## OE-2: Learning Environment/Treatment of Students

### GLOSSARY – Developed by the Board of Trustees

Board: The Board of Trustees

Operational Expectations: These policies define both the nonnegotiable expectations and the clear boundaries within which the Chief Superintendent and staff must operate. They articulate the actions and decisions the Board would find either absolutely necessary or totally unacceptable.

Monitoring Report: The Board wants to know that its values have driven organizational performance. The Chief Superintendent will present to the Board, for its evaluation, a report that summarized how either compliance has been achieved on Operational Expectations or how reasonable progress has been made in Results. Each monitoring report requires: a re-statement of the full policy, by section; a reasonable interpretation of each section; data sufficient to prove compliance or reasonable progress; and a signed certification from the Chief Superintendent of the status.

Reasonable Interpretation: Once the Board has stated its values in policy, the Chief Superintendent is required to “interpret” policy values, saying back to the Board, “here is what the Board’s value means to me.” The Board then judges whether this interpretation is reasonable. In other words, does the Chief Superintendent “get it?” This reasonable interpretation is the first step required in monitoring compliance on Operational Expectations and monitoring reasonable progress on Results.

Compliance: Evidence or data that allow the Board to judge whether the Chief Superintendent has met the standard set in the Operational Expectations values.

Non-compliance: In gathering evidence and data to prove to the Board that its Operational Expectations values have been adhered to, there may be areas where the standards were not met.

The policy or subsection of the policy would be found to be “non-compliant.” The Chief Superintendent would identify the capacity-building needed to come into compliance and the Board would schedule this section of policy for re-monitoring.

**attachment | OE-2: Learning Environment/Treatment of Students****Capacity Building****2.1.2 100% of schools complied with Administrative Regulation 3021 – School Emergency Practices and Procedures.**

CBE administration continues to implement process and monitoring changes identified in the 2019/2020 monitoring report. This includes transitioning data reporting and monitoring to Archibus, effective September 202; providing multiple drill notifications to Principals; and having Education Directors provide direct oversight of compliance and reporting. Principals are required to develop schedules of fire and lockdown drills at the outset of the school year identifying dates drills will be conducted, which are then reviewed by Education Directors. Archibus allows Education Directors the ability to easily view, on demand, compliance reports for schools in their Areas and to follow up directly with Principals. These process changes made are producing positive outcomes with 100% compliance for fall fire drills and lockdowns for the current school year. Complete data for the current school year will be provided in next monitoring report.

**report to  
Board of Trustees**

**Recommendation to Commence Public Input to Consider the  
Closure of Start Outreach - Bowness and Westbrook Outreach  
Programs for the Purpose of Relocation**

Date	April 26, 2022
Meeting Type	Regular Meeting, Public Agenda
To	Board of Trustees
From	Christopher Usih Chief Superintendent of Schools
Purpose	Decision
Originator	Dany Breton, Superintendent, Facilities and Environmental Services
Governance Policy Reference	Governance Policies GC-3E: Closure of Schools Procedure  Operational Expectations OE-2: Learning Environment/Treatment of Students OE-3: Instructional Program OE-4: Treatment of Employees OE-5: Financial Planning OE-7: Communicating With and Support for the Board OE-8: Communicating and Engaging with the Public OE-9: Facilities
Resource Person(s)	Prem Randhawa, Education Director, Area 1 Kevin Howell, Education Director, Area 1 Michelle Howell, Education Director, Area 6 Don Barbor, Principal, Discovering Choices Conor McGreish, Acting Manager, Planning Karen Drummond, Manager, Communication and Engagement Tanya Scanga, Manager, Corporate Planning and Reporting

## 1 | Recommendation

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It is recommended:

- THAT the Board of Trustees is satisfied that there is cause to commence the public input process to consider the closure of the Discovering Choices Start Outreach - Bowness and Westbrook Outreach Program sites for the purpose of relocation in accordance with GC-3E Closure of Schools Procedure.
- THAT the Board of Trustees approves the public input period to consider the closure of the Discovering Choices Start Outreach - Bowness and Westbrook Outreach Program sites for the purpose of relocation be shortened from 60 calendar days to 56 calendar days in accordance with GC-3E Closure of Schools Procedure.

## 2 | Issue

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The CBE currently offers outreach programming, known as Discovering Choices, at four leased facilities. The leases at two of these sites, namely the Bowness and Westbrook outreach sites, will expire in 2023. This fact, combined with recent changes to government funding for outreach programs, and the elimination of the government requirement to house outreach programs outside of school buildings, means it is now possible to support outreach students in different ways.

Two alternate school locations in close proximity to the current Bowness and Westbrook locations are proposed. These locations would allow Discovering Choices students to participate in enhanced learning opportunities while also continuing to provide the individualized programming and supports available at the current sites.

With the proposed location moves, student access is maintained at four Discovering Choices sites, one location still in each quadrant of the city. There is also the opportunity to provide flexibility and choice for students to choose the location that best meets their needs.

Under the Board's GC-3E Closure of Schools Procedure, the move of a program to another location requires a formal closure process for the purpose of said relocation.

## 3 | Background

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The province is currently revising its guidelines for outreach programs. As it stands, outreach programs are intended for students who find that regular school programs

and services do not meet their needs. Alberta Education provides funding for these programs to encourage high school-aged students at risk of dropping out of school or facing various challenges, to continue and complete their education. The CBE currently offers outreach programming at four leased locations, one in each quadrant of the city. These are as follows:

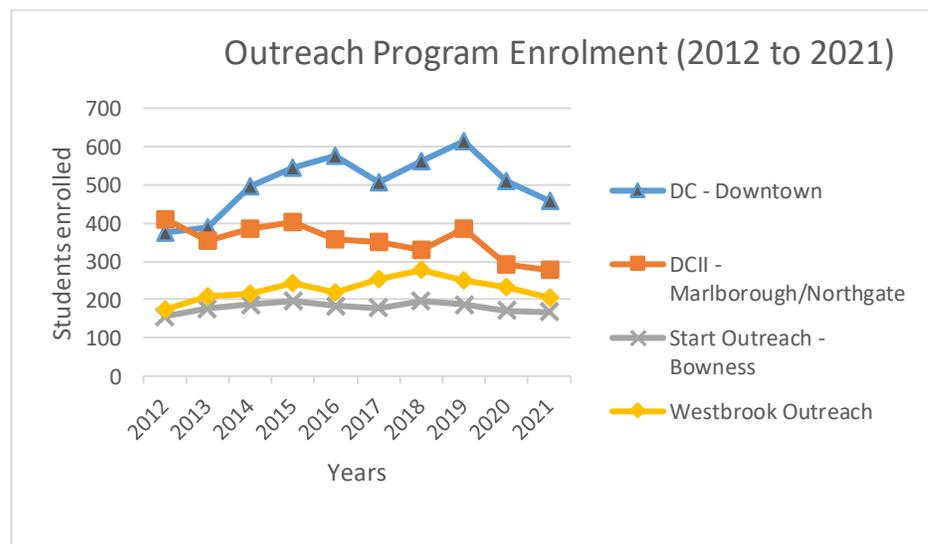
1. Discovering Choices I - Downtown in the S.E.
2. Discovering Choices II - Northgate Mall in the N.E.
3. Start Outreach - Bowness in the N.W.
4. Westbrook Outreach - Westbrook Mall in the S.W.

The Discovering Choices program is designed to meet the individualized needs of outreach students. In addition to the Alberta Programs of Study, outreach programs also provide students with educational supports and services. These include, but are not limited to, personal and career counselling, time management, study skills and learning strategies.

Students enrolled in regular high school programming may transition into Discovering Choices through conversations led by the student’s current high school administrative team. The staff at Discovering Choices engage in an intake process to fully understand the profile of a student and how support and services of outreach can meet their needs. Students and parents/guardians are part of this intake process and must agree to the transition to Discovering Choices. During the school year, ongoing registrations are processed with a focus on continuum of programming for high school students.

Except for the former Marlborough location, which operated at full capacity for several years before moving to the new site at Northgate in 2020, enrolment in other outreach programs has increased since 2012. However, Discovering Choices I & II have more students enrolled than Start Outreach - Bowness and Westbrook Outreach combined. In addition, enrolment at the Bowness and Westbrook locations has been declining since 2018. Diagram 1 below shows the change in student enrolment at all four sites from 2012 to 2021.

*Diagram 1: Outreach Program Enrolment (2012-2021)*



Additionally, funding for the program changed for the 2020-21 school year. The CBE now receives a fixed grant of \$150,000 to operate all four sites. Under the previous outreach grant funding formula, the CBE received a grant of \$62,500 per outreach site for a total of \$250,000 per year. With the decrease in funding, the cost to operate the program at all four locations exceeds the government funding the CBE receives to an ever greater degree.

The provincial requirement to house outreach programs outside of school buildings was also eliminated in 2021-22, and AR 3090 – Outreach Programs is currently being updated to reflect this change.

## 4 | Analysis

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CBE Administration is proposing a change in location for two of the four sites for the Discovering Choices outreach program for the 2023-24 school year and beyond. It is recommended that the current Start Outreach - Bowness site move to Robert Thirsk High School and the Westbrook Outreach site move to Alternative High School. There are multiple reasons for these moves to be recommended, including the following:

- Student access can be maintained at four Discovering Choices sites, one location still in each quadrant of the city.
- There is space available in close proximity to the current program locations.
- The leases at the Bowness and Westbrook sites are expiring in 2023.
- The moves provide Discovering Choices students with access to enhanced learning opportunities while also continuing to provide the individualized programming and supports provided at the current sites. Students can be placed into sites based on their programming and support needs, ranging from sites that have isolated building sites to those housed in larger schools with sheltered programming with access to engage in optional courses, as per individual student need and interest.
- The government requirement to house outreach programs outside school buildings no longer exists.
- Government funding for outreach sites has changed.

If the proposal is approved, the CBE will continue to operate four outreach locations across the four quadrants of the city with the proposed moves as follows:

- a. Discovering Choices I (Downtown) - will continue at the current SE location;
- b. Discovering Choice II (Northgate) - will continue at the current NE location;
- c. Start Outreach (Bowness) - will move into Robert Thirsk High School in the NW; and
- d. Westbrook Outreach (Westbrook) - will move into Alternative High School in the SW.

### **Enrolment and Impacts**

As of Sept. 29, 2021, 1,108 students were enrolled in outreach programs across all four sites. Over 60 per cent of the students are enrolled at the downtown (41 per cent) and the Northgate (25 per cent) locations. The downtown location had 457 students enrolled, while Northgate had 277 students. These locations will continue

to operate from the existing leased sites. Table 1 shows the students enrolled at all the outreach sites for the 2021-22 school year.

*Table 1: Enrolment in Outreach Programs 2021*

<b>Programs</b>	<b>Locations</b>	<b>Enrolment</b>	<b>% of total Enrolment</b>
Discovering Choices I	Downtown	457	41%
Discovering ChoicesII	Northgate	277	25%
Start- Outreach	Bowness	168	15%
Westbrook Outreach	Westbrook	206	19%
<b>Total</b>		<b>1108</b>	<b>100%</b>

*Source: School Enrolment Report 2021-2022*

With Start Outreach and Westbrook Outreach having less than 40 per cent of the students enrolled in the program and considerable flexibility in attendance, it is estimated that approximately 50-60 students will be at each school location (Robert Thirsk High School and Alternative High School) on any given day. As a result, the impact on students at Robert Thirsk and Alternative High schools will be minimal.

### **Space, Capacity and Utilization**

Robert Thirsk and Alternative high schools have available space and are close to where Bowness and Westbrook students live. It is estimated that two to four classrooms will be required to accommodate outreach students at both schools.

Projected enrolment will remain the same for both Robert Thirsk and Alternative high schools. However, utilization rates will increase for each of the schools when the outreach programs are relocated to their buildings, given the space they will occupy.

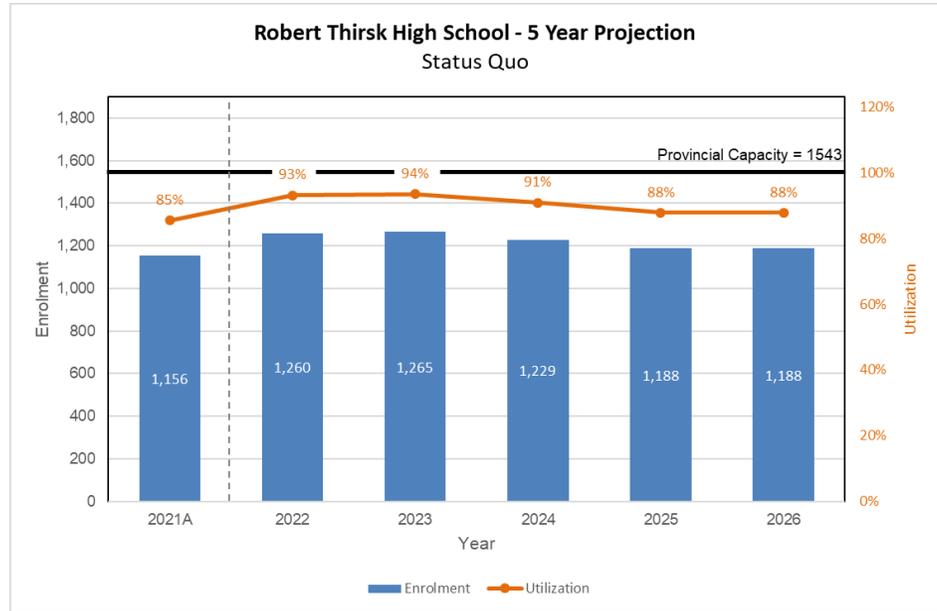
Utilization is a calculation of weighted enrolment divided by the provincial capacity. Weighted enrolment is a calculation that weighs severe complex learners as using three times more space than a non-complex learner. The provincial capacity is based on the amount of instructional space in a building.

Both the formula for weighted enrolment and capacity for schools are provided by the provincial government.

**Robert Thirsk High School**

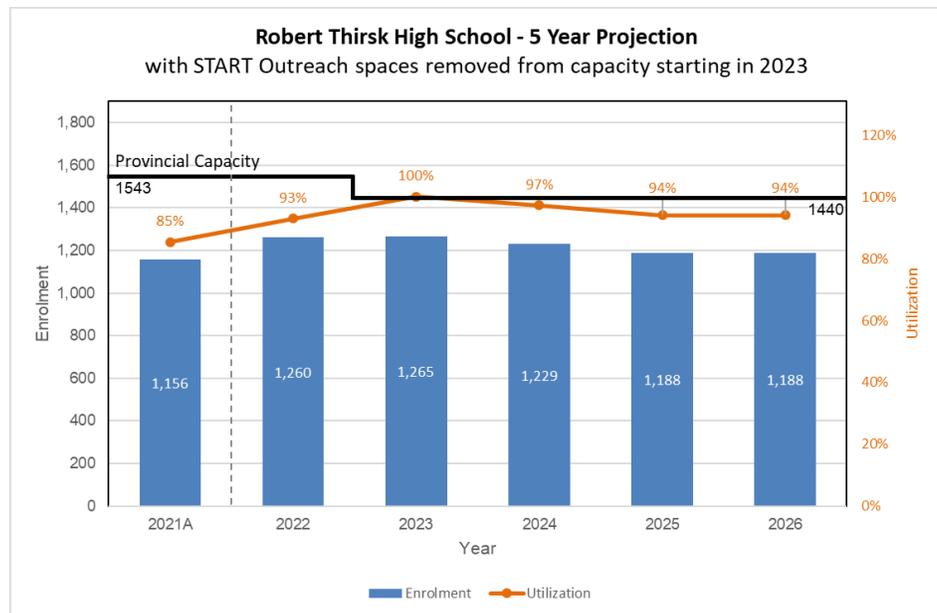
Student enrolment and utilization at Robert Thirsk High School is projected to increase through to 2023. From 2024 onward, enrolment and utilization is projected to decline.

*Diagram 2: Robert Thirsk without Start Outreach (2021-2026)*



With the Start Outreach Program added, there will be a reduction in the provincial capacity from 1,543 to approximately 1,440. As a result, the school will be at capacity in 2023 with a utilization rate of 100 per cent but will decline slowly after that.

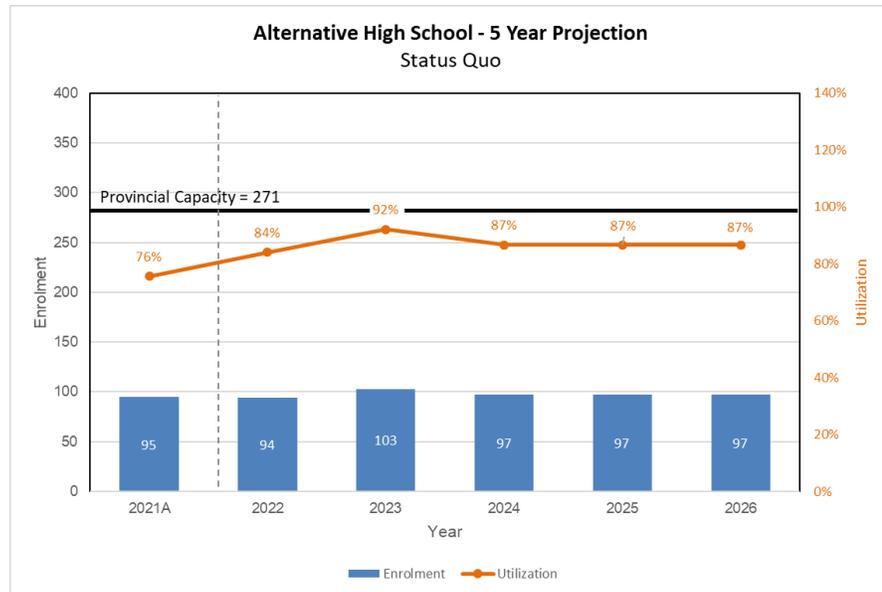
*Diagram 3: Robert Thirsk with Start Outreach program (2021-2026)*



### Alternative High School

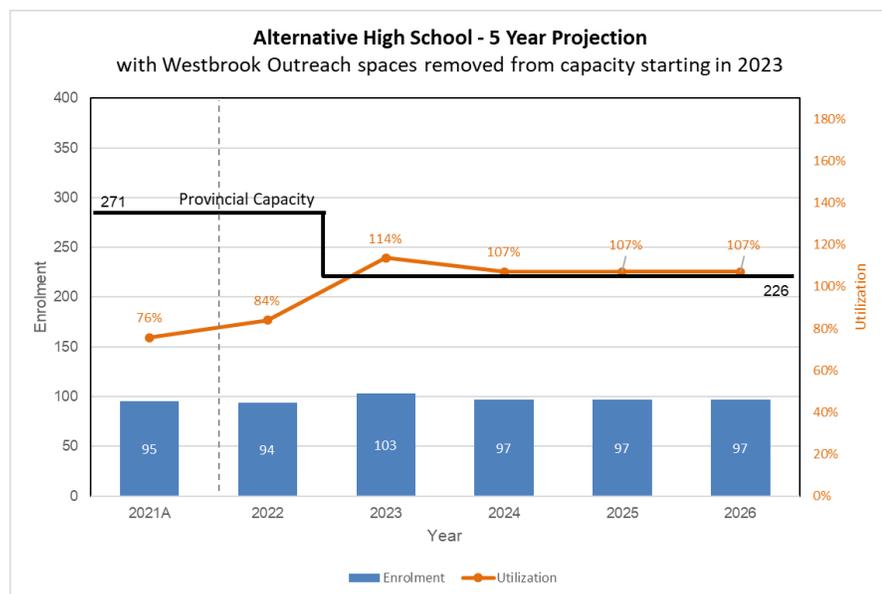
Student enrolment and utilization at Alternative High School is projected to remain stable. Without a change, the school's enrolment and utilization rate is projected to be at its highest in 2023.

Diagram 4: Alternative High without Westbrook Outreach program (2021-2026)



With Westbrook Outreach Program added, there will be a reduction in the provincial capacity from 271 to approximately 226. As a result, the school will be above capacity in 2023 with a utilization rate of 114 per cent but will decline in 2024 and stabilize slightly over 100 per cent. This higher utilization at Alternative High School can be managed through the flexible nature of student schedules, and by the fact that not all students are present at any given time in a high school.

Diagram 5: Alternative High without Westbrook Outreach program (2021-2026)



### **Proximity, Access and Transportation**

A consideration of the proposal for relocating these two outreach sites is that students continue to have access to good transportation to these programs. The majority of the students attending at the current Bowness site are from the Bowness community and surrounding areas in the northwest. Robert Thirsk High School is located approximately 10 minutes away from the current location and is accessible via the Crowfoot LRT, bus, bikes and cars. For Westbrook Outreach, students enrolled are from across the city. To access the program from Alternative High School, students can use various means, including public transit, biking, walking, and private motor car. Of note, current students who attend Alternative High School also come from all over the city and many successfully use Calgary Transit to get to and from school.

### **Learning Opportunities at New Locations**

Under the proposed relocation, outreach students at Bowness would move to Robert Thirsk High School and Westbrook to Alternative High School. There is an opportunity to provide enhanced learning opportunities for students while also continuing to provide the individualized programming and supports provided at current sites.

Many components of outreach supports for Discovering Choices students would remain the same and this includes: individual and flexible programming, access to core courses and well-being supports. Discovering Choices teachers would continue to teach core subjects to Discovering Choices students only. In this way, the programming would be provided in a manner that is consistent with what is currently offered at the Bowness and Westbrook leased sites even though the program would be delivered within a high school building.

Additional opportunities would also be available for outreach students relocating to Robert Thirsk and Alternative high schools and this includes: access to Career and Technology Studies (CTS) and optional courses, opportunity to engage in extra-curricular offerings, access to larger guidance and student services staff. Discovering Choices students would participate in CTS/option courses and extra-curricular activities along with other students at Alternative High School and Robert Thirsk High School.

Alternative High School students take some option classes at their school and also take CTS and other option courses at the Career and Technology Centre or Central Memorial High School, which is across the street.

Students attending Discovering Choices will continue to have flexibility to choose their program location, within spaces and resources available.

The Nexus Program that currently operates out of Bowness will relocate to the Northgate location and this process will be aligned with the specialized placement process led by the CBE's Inclusive Education team.

### **Hearing From Affected Communities**

On March 2, 2022 students, staff and parents at Discovering Choices, Alternative High School and Robert Thirsk High School were advised of the CBE's plans to move the current Westbrook and Bowness locations for the Discovering Choices Program. There were meetings with staff at Discovering Choices, Alternative High

School and Robert Thirsk High School to share information and answers questions March 2. Direct emails were sent to parents March 2 and March 11. Schools also had additional discussions with staff, parents, school councils and students. In these communications, the following opportunities to share perspectives and feedback were highlighted:

- March 14 virtual information session for Discovering Choices families.
- March 15 virtual information session for Alternative and Robert Thirsk families.
- Four March 15 sessions (two virtual and two in-person sessions) for Discovering Choices students currently attending at Bowness and Westbrook locations.
- March 2-17 online surveys for Discovering Choices parents, students and staff.
- School-specific opportunities for input and feedback at Alternative and Robert Thirsk high schools.

For the March 14 session, CBE staff presented information to seven attendees, including trustees. The March 15 session had six attendees, including trustees. The sessions provided an opportunity for families to learn more about plans and ask questions. There were multiple questions and comments shared in the March 14 session related to supporting Discovering Choices students in transitioning to a high school setting. No questions or comments were provided in the March 15 session. Recordings of the presentations are posted on the CBE website for any families who were unable to attend.

There were 24 students in attendance at the March 15 sessions. The comments from students at these sessions reinforce the need for an individualized approach to transitions for students at the Bowness and Westbrook locations. The comments also acknowledge the importance of continuing to provide core programming that is tailored to the needs of Discovering Choices students.

Discovering Choices staff and families were also invited to share their perspectives through online surveys that were available March 2–17, 2022. There were 36 responses on the student and parent survey and 19 responses on the staff survey. The staff results are posted on Insite and the student and parent results are posted on our public website.

In addition, Alternative High School and Robert Thirsk High School provided school-specific opportunities for staff and families to share their feedback on these plans. At Alternative High School, the staff, students and parent community are pleased that their school will remain open and operating in the future. At Robert Thirsk High School, the staff, students and parent community are satisfied to hear that current and future Robert Thirsk students will continue to have access to strong, robust programming, supports and services.

Through all of these opportunities, we have heard a range of perspectives expressed. The most prevalent theme or question from the sessions and surveys is related to transition plans and the ways in which Discovering Choices students can be successful with two locations being moved into high school buildings/settings. Below is more information about how that can be accomplished.

### **Transition Plan for Current and Future Discovering Choices Students**

Student transitions will be coordinated, purposeful and outcomes-oriented. Transitions will be carefully and deliberately planned as they require a holistic approach which is multi-faceted, timely, on-going and responsive. If the proposed relocation is approved, a detailed implementation plan will be created in October 2022 that will include feedback and perspectives gathered from students, parents, staff and school administrators. It is important that transitions are student-focused and are inclusive of the social-emotional needs of each student.

The transition plan will include, but will not be limited to:

- Discovering Choices school administration team and staff working with each student in a personalized approach to support programming, flexible schedules and well-being supports.
- Discovering Choices staff, students and parents being provided an opportunity to tour both Robert Thirsk High School and Alternative High School during the 2022-23 school year.
- Creating warm, welcoming and conducive learning spaces for Discovering Choices students that include separate classroom spaces, break-out spaces for quiet learning, entrances and exits that are accessible, flexible entry and exit times.
- Current and future Discovering Choices students continuing to have choice as to which outreach location they would like to attend: Robert Thirsk High School, Downtown, Northgate or Alternative High School. By offering the programming in both leased spaces and high school buildings, there is the opportunity to be more responsive to the various needs and interests of different Discovering Choices students. Students can be placed into sites based on their programming and support needs, ranging from sites that have isolated building sites to those housed in larger schools with sheltered programming with access to engage in optional courses, as per individual student need and interest.

### **Existing Leased Sites and Capital Plan Impact**

If approved, the leases at the existing leased sites will be allowed to expire. Accordingly, these sites will not be repurposed for other school jurisdiction purposes, thereby allowing the lease savings to be reinvested within the system in support of student learning.

Additionally, the proposal to relocate outreach sites into Robert Thirsk High School and Alternative High School is anticipated to favourably impact CBE long-term capital. The primary reason for this is due to how increased system utilization rates are viewed favourably by the government in deciding upon new high school construction requests from school jurisdictions.

### **Abbreviation of the 60 Day Public Input Period**

This report also recommends the abbreviation of the 60 day public input period laid out within GC-3E Closure of Schools Procedure to a 56 day public input period for two reasons. First, shortening the period by 4 calendar days still provides ample time for the holding for public input to be received and the full impacts of the proposed closure for relocation to be understood by the Board. Secondly, bringing this matter for decision to the regularly scheduled public Board meeting of June 21,

2022 maximizes the opportunity for public input while still allowing for communication of the decision before the end of the school year.

## 5 | Financial Impact

There will be a cost savings to re-locating outreach programs to Robert Thirsk High School and Alternative High School. The Bowness and Westbrook locations are currently the two most expensive outreach lease costs, which the CBE would not be paying into the future. The table below highlights the annual lease costs and the cost per student at each outreach location.

*Table 2: Lease cost, enrolment and cost per student at outreach sites*

Location	Annual Lease Cost	2021-2022 Enrolment	2021-2022 Cost Per Student
DC- Downtown	\$ 126,000.00	457	\$ 275.71
DC -Northgate	\$ 110,293.00	277	\$ 398.17
Start Outreach	\$ 184,500.00	168	\$ 1,098.21
Westbrook Outreach	\$ 132,732.00	206	\$ 644.33

In addition to the lease cost, there are other associated costs to running these programs. A total of \$38,000 per annum will be saved between the two sites in custodial contracts, security/alarm, mat rental and water costs.

The financial impact remains limited and is not a driving factor in the short term. Operations and Maintenance (O&M) grants are calculated based on weighted moving average enrolment calculations as well as school utilization. Both Robert Thirsk and Alternative high schools remain above 85 per cent in the forecasted future as noted above, and therefore obtain full O&M funding currently. The leased outreach facilities would not have received O&M funding as prescribed in the funding manual. Therefore, there is no impact on the O&M funding as a result of the moves.

In regards to long-term planning associated with the Resource Allocation Method (RAM) of the outreach programs within the existing schools, there will be little change in the near future. However, as resources are shared between the programs at Alternative and Robert Thirsk high schools, there will be opportunities for overall savings that will be explored. This is further explored in the implementation consequences below.

## 6 | Implementation Consequences

In the first year of implementation (2023-24), it is not anticipated there would be any changes to staffing for the Discovering Choices Program, Alternative High School or Robert Thirsk High School directly resulting from the moves. Adjustments are made in school planning and staffing on an ongoing basis in any given school year in accordance with goals and priorities identified in school development plans and the Resource Allocation Method (RAM) schools use for budgeting.

There will be time throughout the 2022-23 school year to provide a smooth transition for students, staff and families.

There will be opportunities for Discovering Choices staff to explore ways to offer outreach programming in new and innovative ways with two leased sites and two school locations. These discussions will be ongoing throughout the 2022-23 school year. There will also be opportunities for Discovering Choices staff to come together with staff at Alternative High School and Robert Thirsk High School to collaborate and share ideas on how to operate the outreach programs alongside the existing school programs in ways that best support all students.

A personal and individualized approach will be taken to transitioning students from the current Bowness and Westbrook locations to the location that best meets their needs. An implementation plan will be communicated by October 2022, which will provide flexibility to adapt to individual student needs.

## 7 | Conclusion

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There is an opportunity to enhance learning opportunities for Discovering Choices students by offering programming at leased sites, Robert Thirsk High School and Alternative High School, while concurrently enhancing financial sustainability of the outreach programs. This recommendation would maintain student access to four locations in each quadrant of the city close to where students live. It also allows the CBE to continue offering the same individualized programming and supports at these locations. In addition, transition planning will be highly individualized and students will have the opportunity to choose the location that best meets their needs.

Changes to the funding model, the upcoming expiration of existing leases, and space availability at the two high schools have made this possible.



CHRISTOPHER USIH  
CHIEF SUPERINTENDENT OF SCHOOLS

### ATTACHMENTS

- Attachment I: Discovering Choices Student & Parent Survey Results Report
- Attachment II: Discovering Choices Staff Survey Results Report

# Discovering Choices Student & Parent Survey Results Report

March 18, 2022

*dialogue*)))



**Calgary Board  
of Education**

# Background

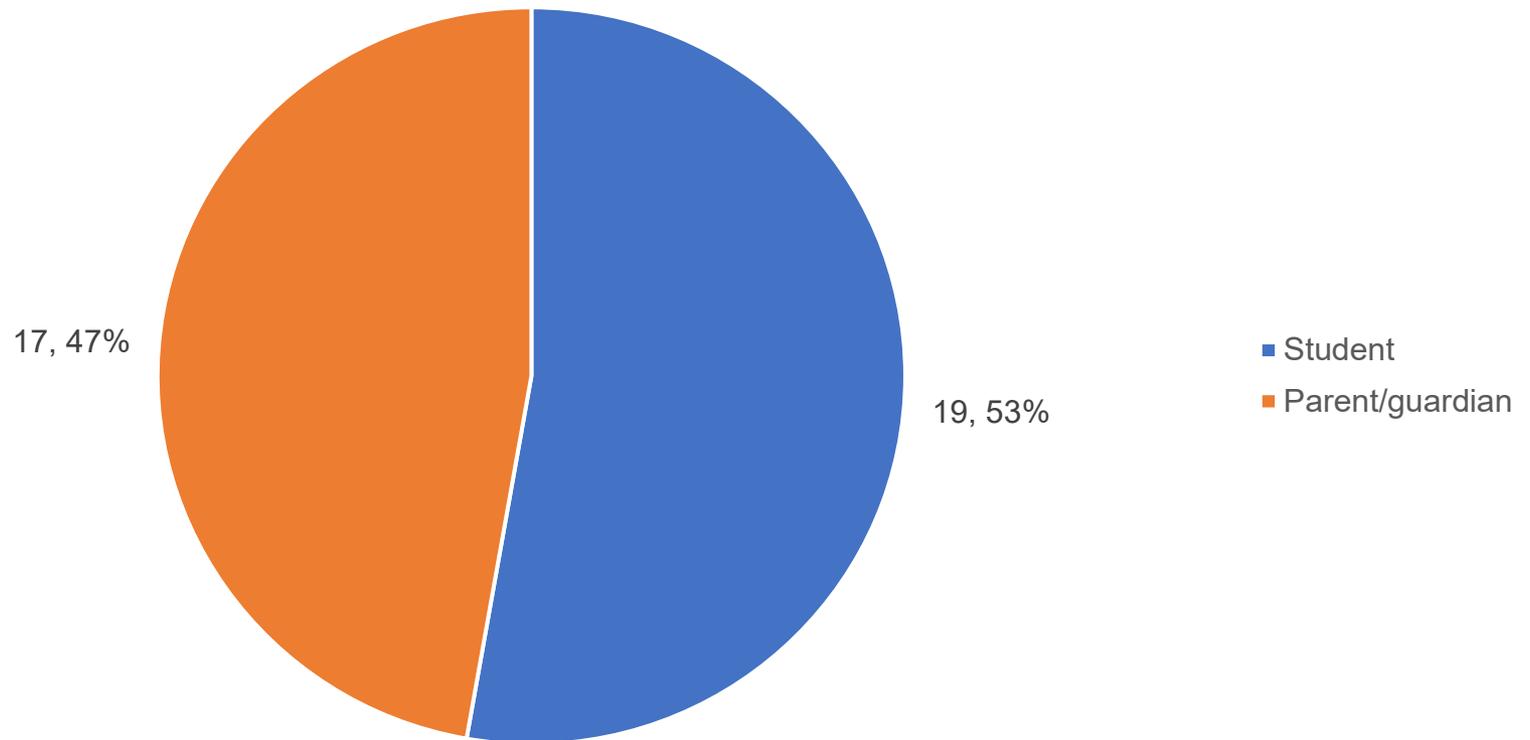
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- This online survey is available to students and parents March 2-25, 2022. This report captures responses to March 17, 2022.
- The purpose of the survey was to gather input to inform the implementation plan that will support a smooth transition for affected staff and families should the board approve moving these programs. The implementation plan will be communicated publicly by October 2022.
- The level of response to each question varies and is noted for each survey question.

# Please indicate if you are a student or parent/guardian.

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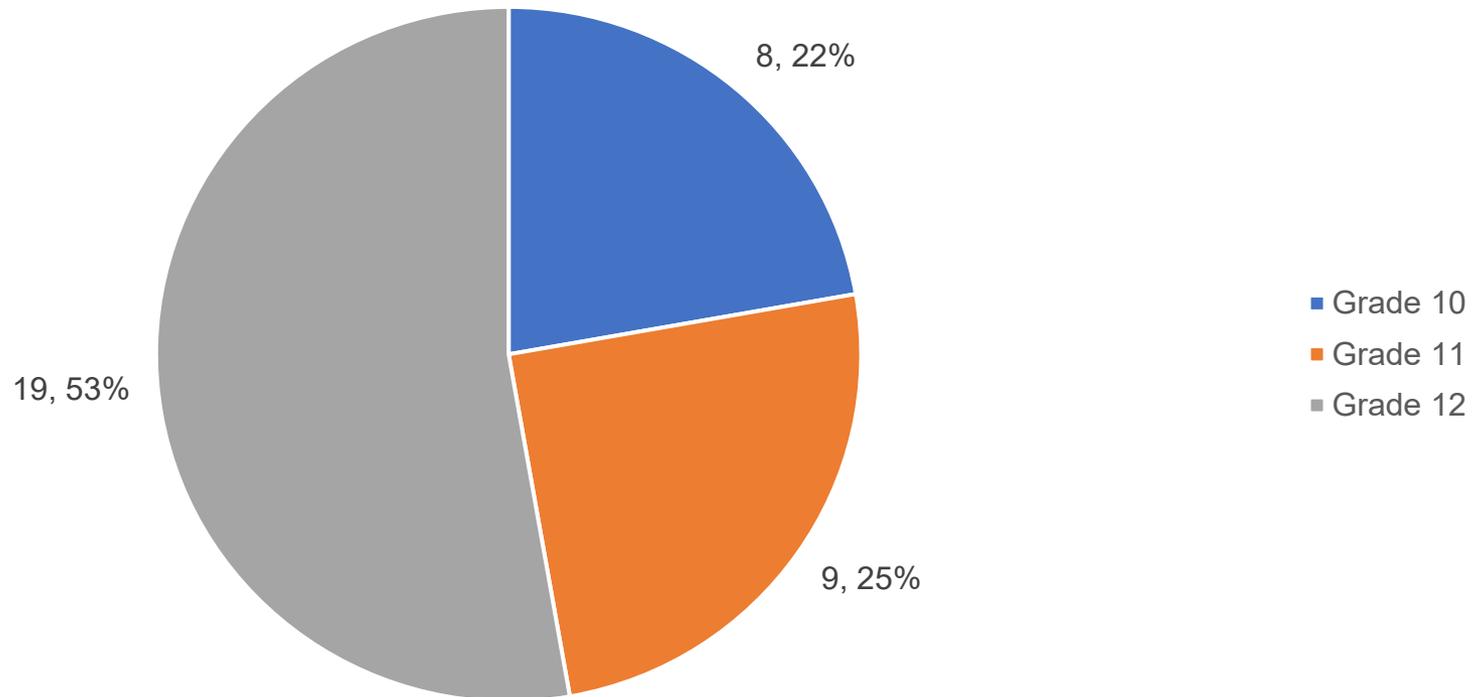
Responses: 36



# Please indicate current grade of Discovering Choices student.

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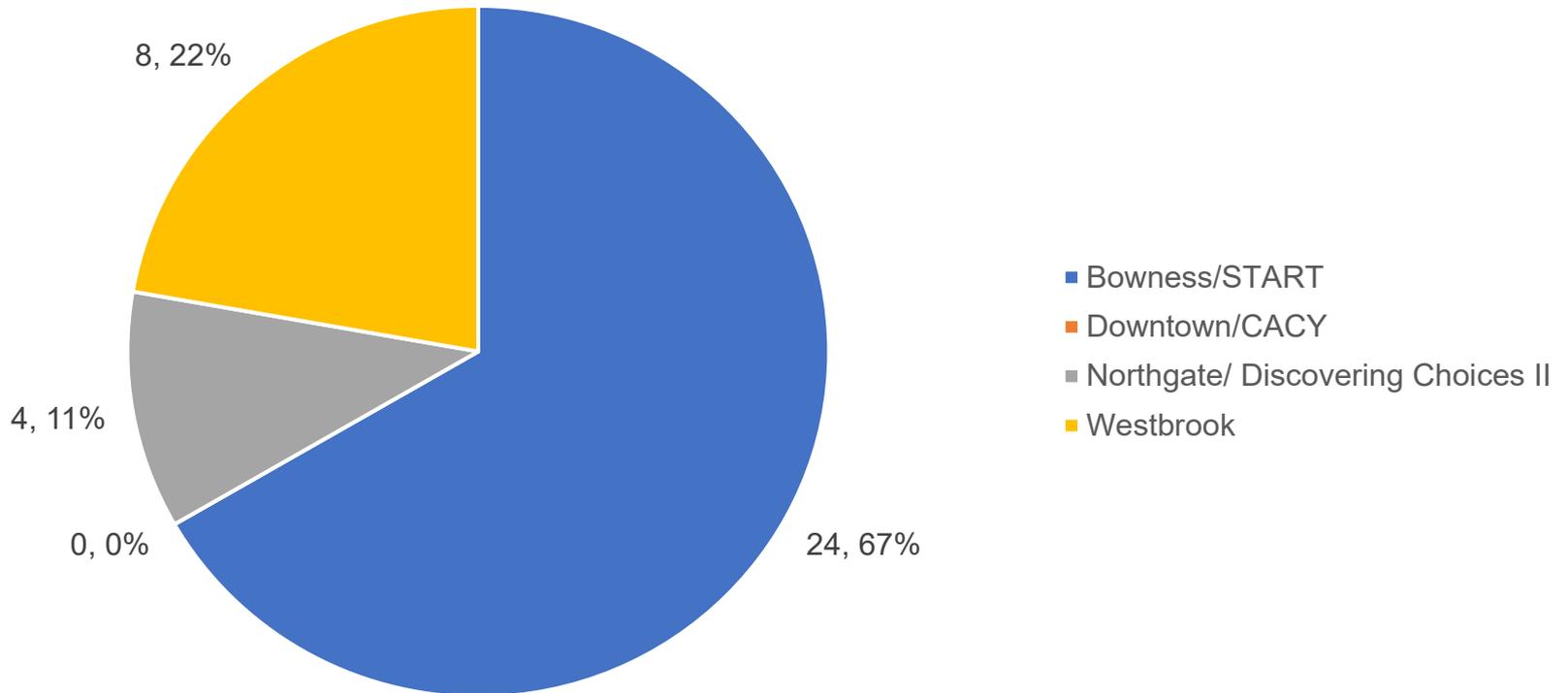
Responses: 36



# Please indicate current program location.

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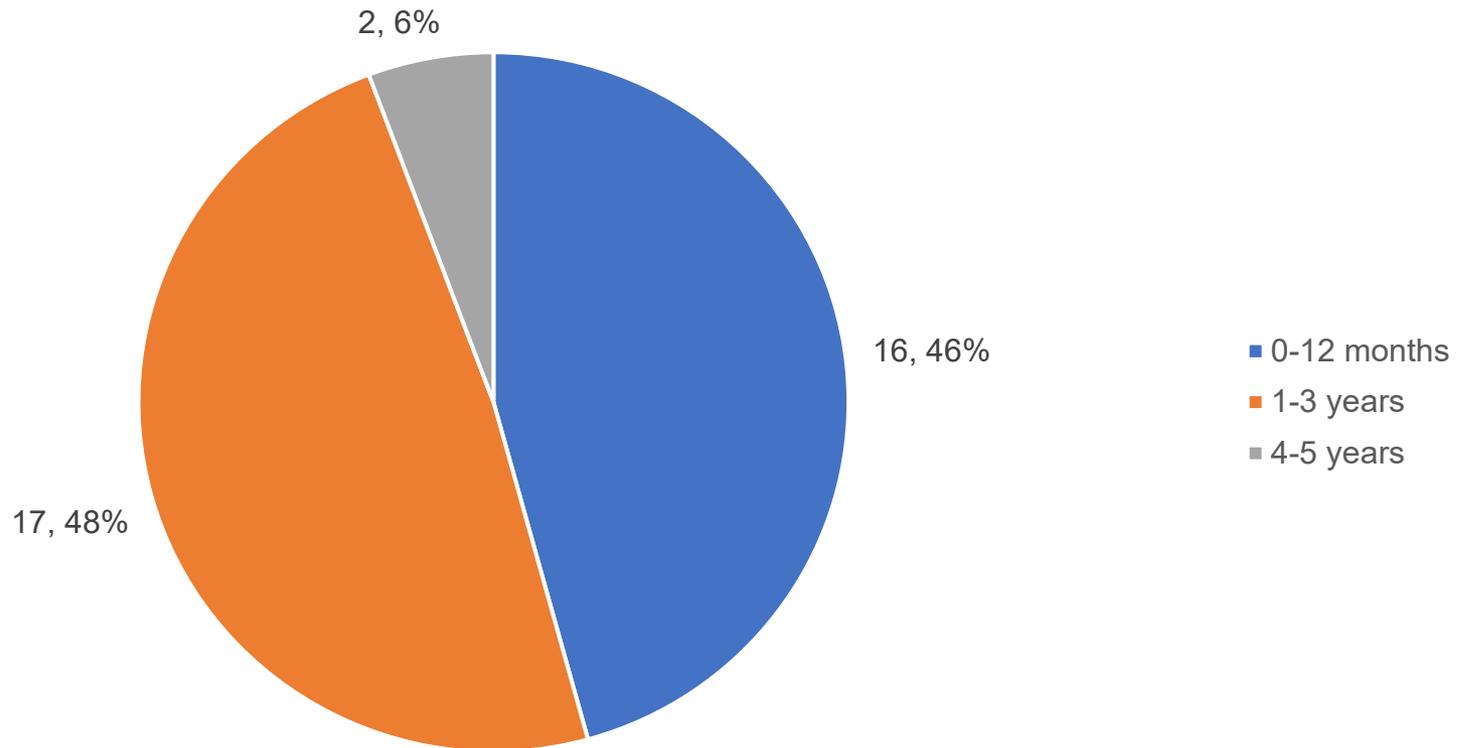
Responses: 36



# Please indicate the number of years attending Discovering Choices.

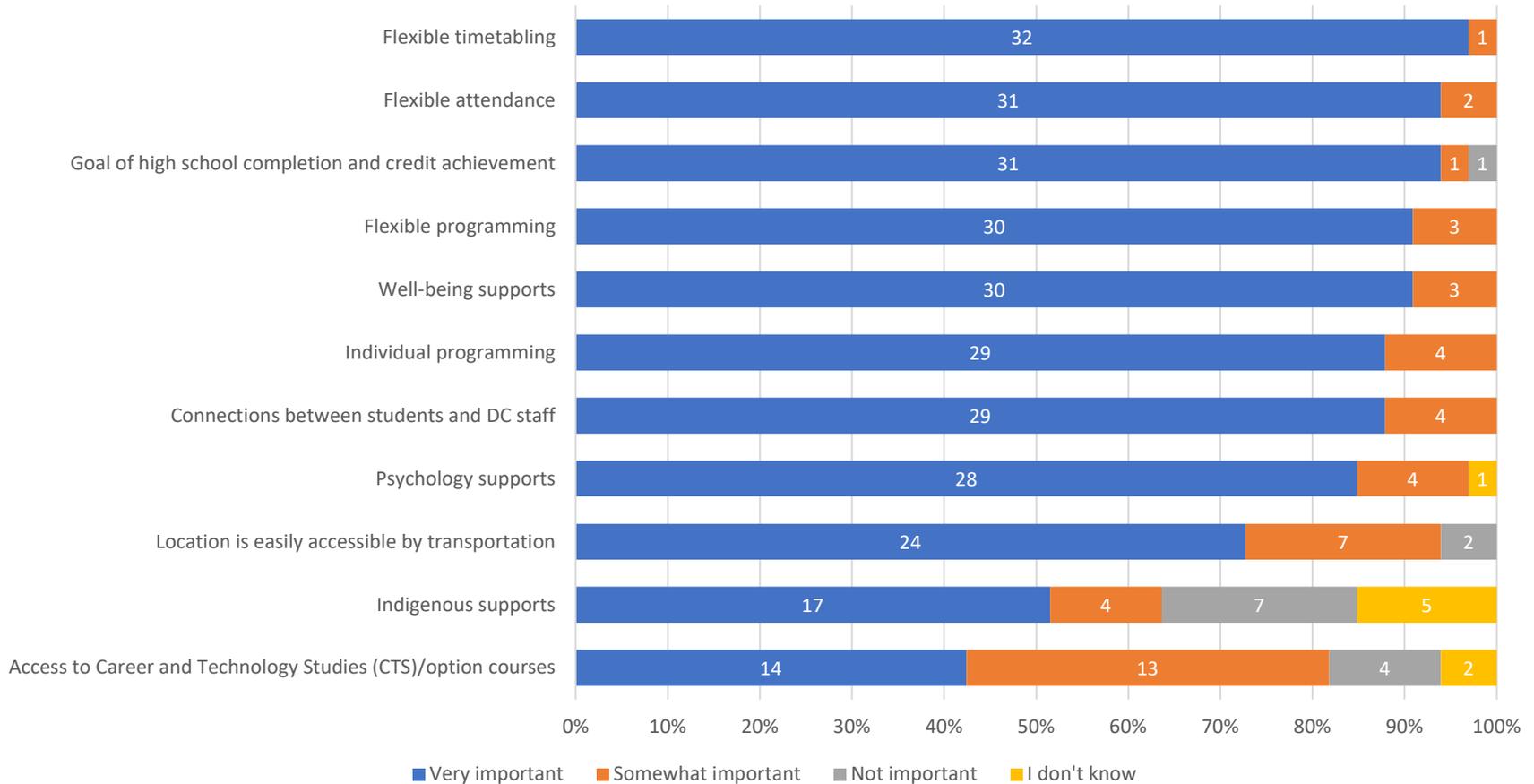
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Responses: 35



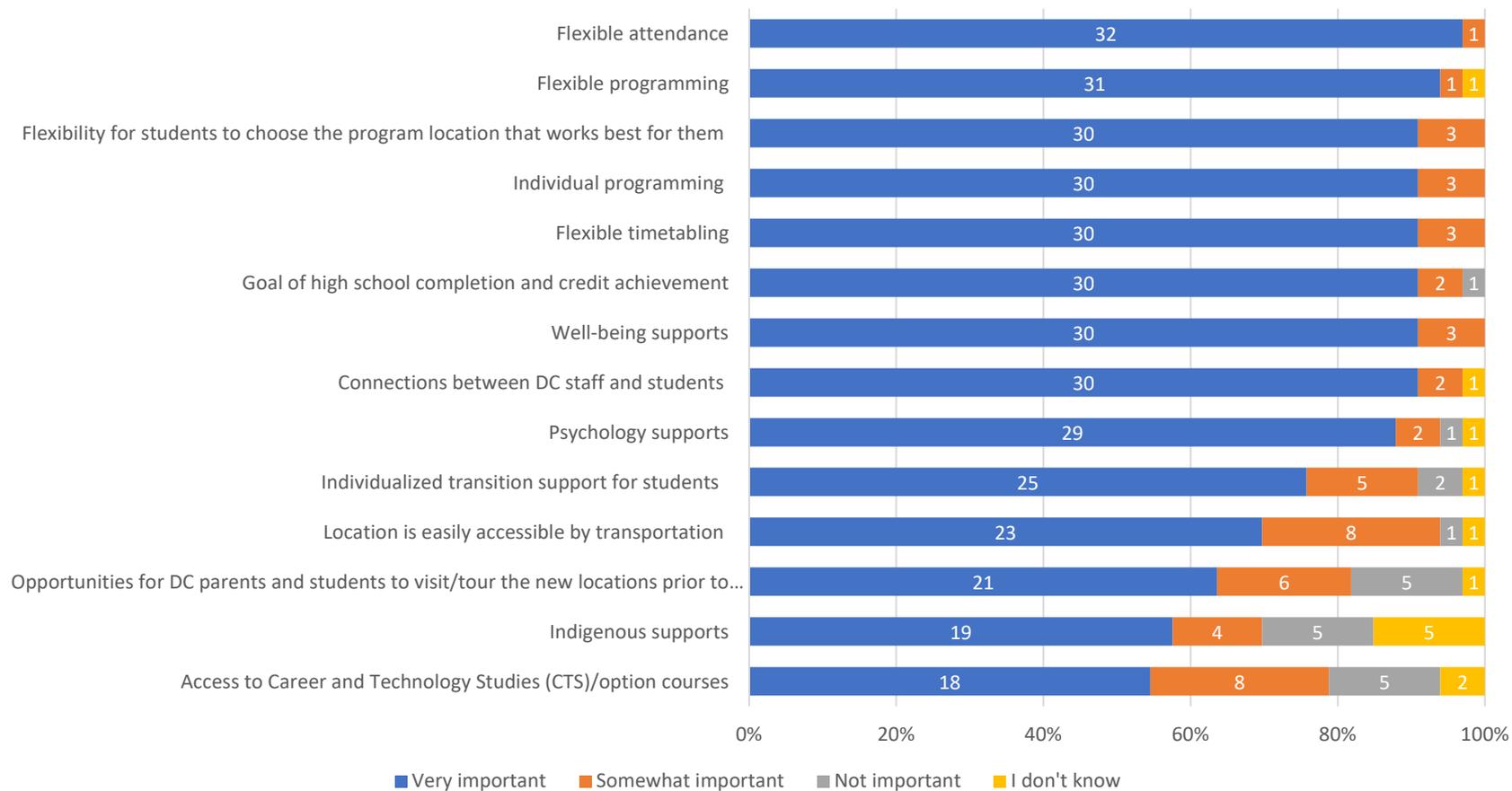
# Please indicate how important the following aspects of the Discovering Choices Program are to you at your current site.

Responses: 33



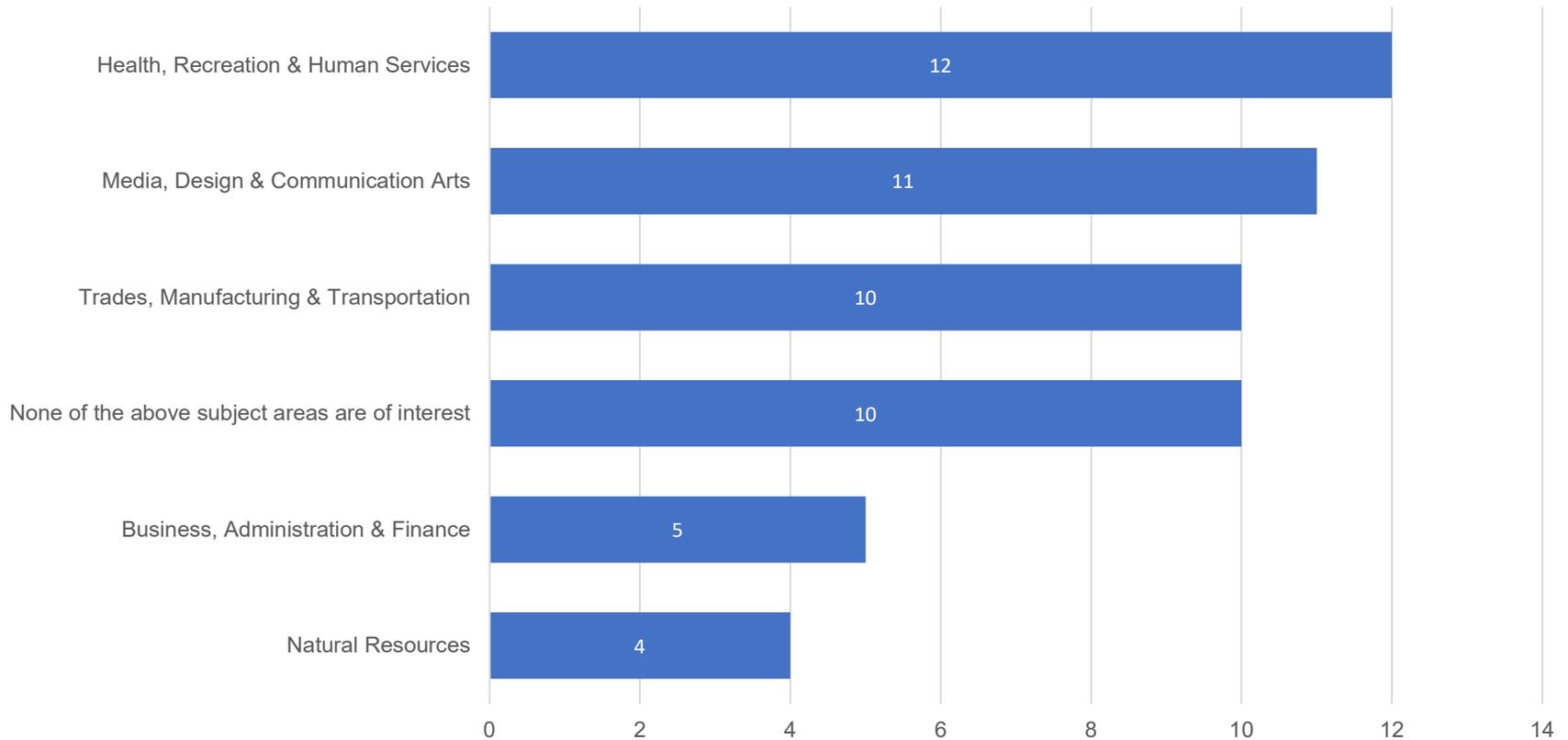
# Please indicate how important the following aspects are to you in ensuring a smooth transition for students and families at a new location.

Responses: 33



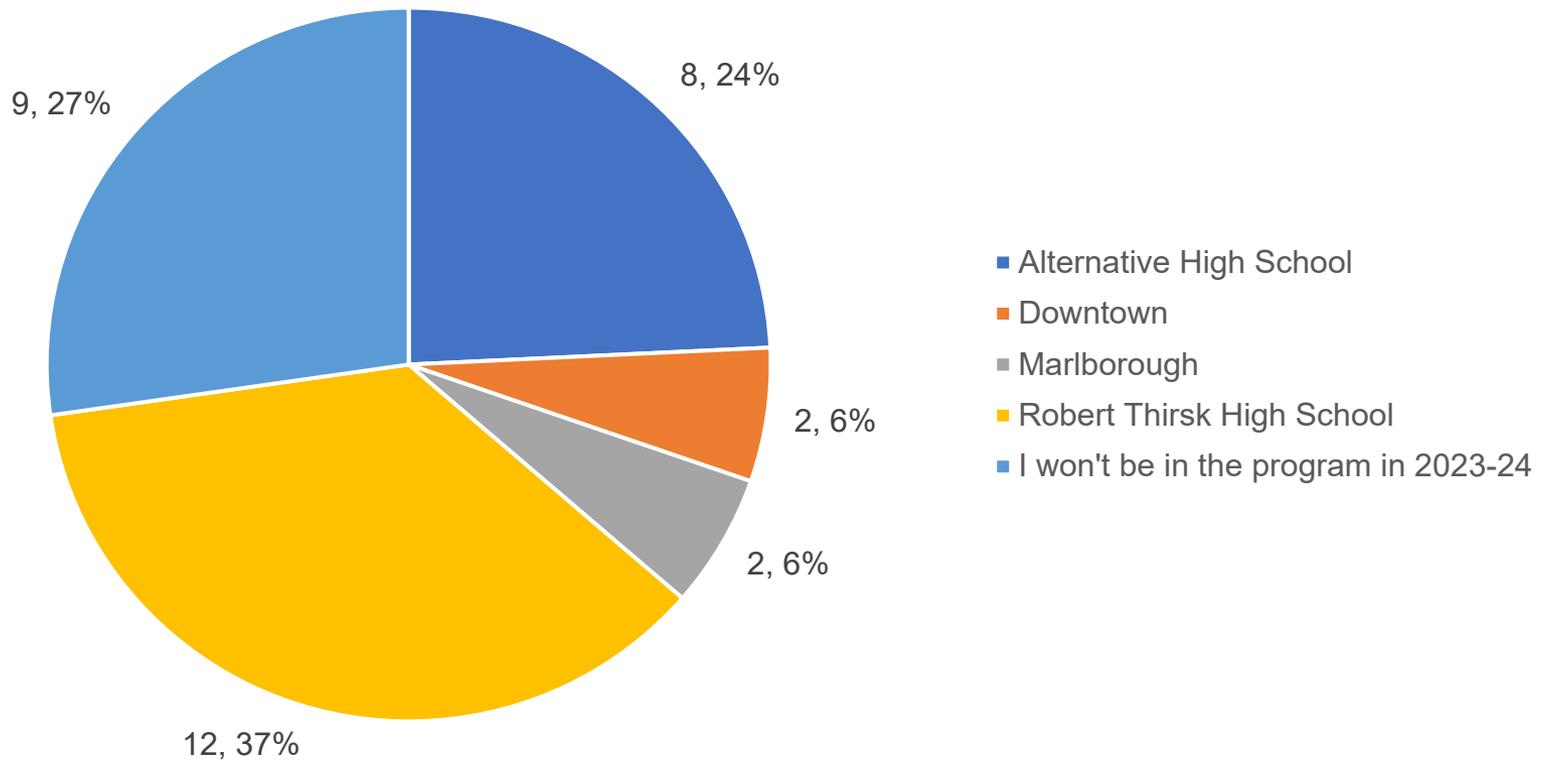
At the recommended locations of Alternative and Robert Thirsk high schools, students will have the opportunity to participate in CTS and other optional courses. At Alternative High School, some of these courses are offered at the Career and Technology Centre or Central Memorial High School, which is located across the street from the school. Please select the subject areas that would be of interest to you at these locations

Responses: 33



If the Board of Trustees approves moving two Discovering Choices locations, which location would be your preferred location in 2023-24? (This won't count as your final choice as that will be confirmed in fall 2022.)

Responses: 33



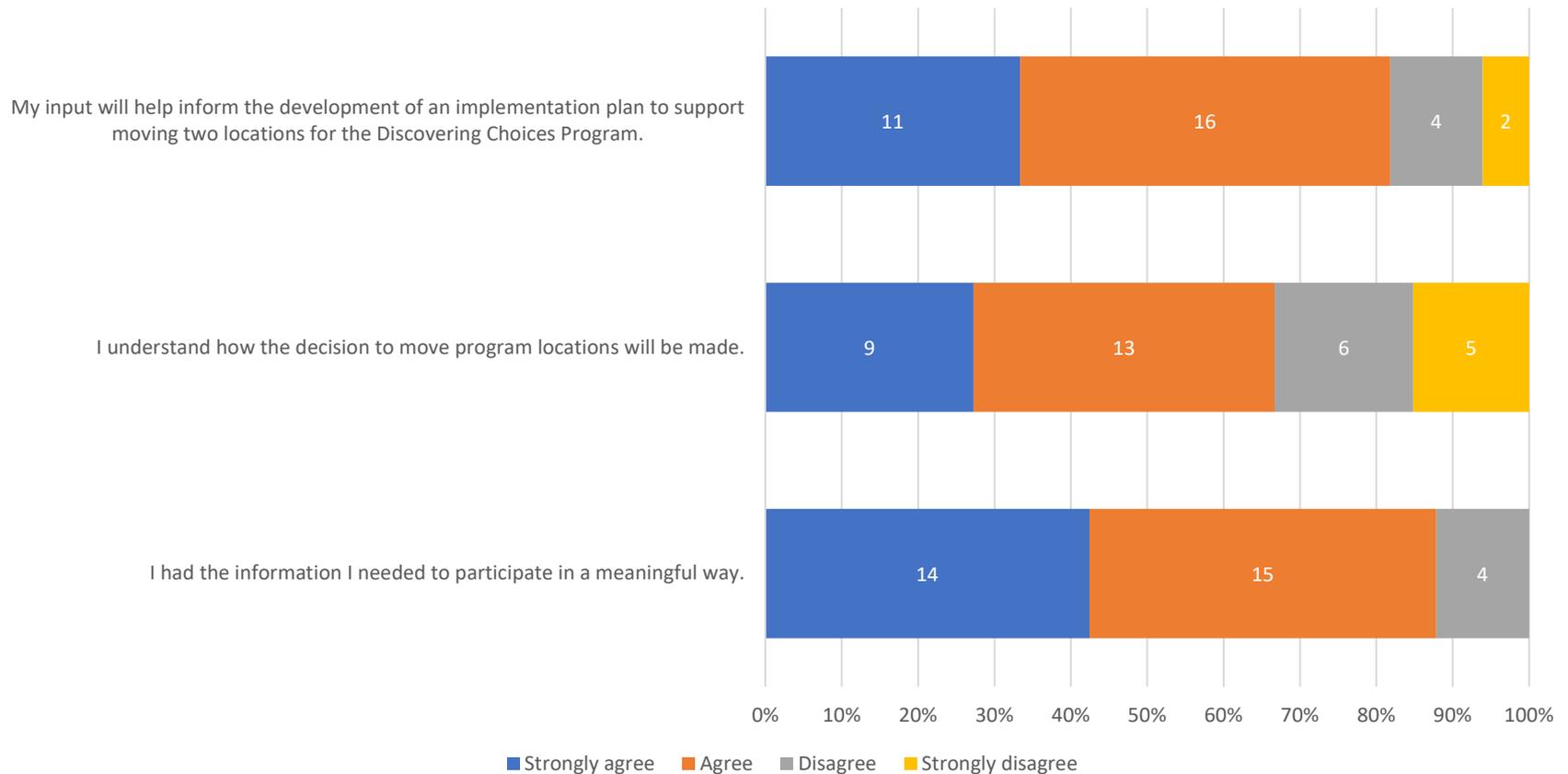
If you have any additional thoughts to share about how we can provide a smooth transition for Discovering Choices staff and students, please share them below.

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- See page 13 onward for verbatim responses

# Please indicate the extent to which you agree or disagree with the following statements:

Responses: 33





**If you have any additional thoughts to share about how we can provide a smooth transition for Discovering Choices staff and students, please share them below.** *(Comments are provided as they were written. Comments have not been edited for accuracy, spelling, grammar, sentence structure or otherwise. Comments have been edited to ensure anonymity. We also edited for omitted abusive, discriminatory and otherwise inappropriate comments.)*

DO NOT CLOSE DC BOWNESS! If your going to close Bowness site, why don't you move this school to Northland mall? Transportation is super easy to get to Northland, rather than going to Crowfoot for Robert Thirsk. This is why there is a special school just for kids who comes from DOMESTIC VIOLENT, HOMELESSNESS, MENTAL HEALTH, SEXUAL ASSULT, GANG LIFE, SUICIDE LIFE, JAIL. That's why this school, Discovering choices, it gives each student hope. This school made me feel welcomed, less pressured, but not when walking in a traditional high school. We don't want to move to a traditional high school where there are more kids, fights, loud and wild students, teachers asking you what are you doing in the hallway, interruptions, bullying, etc. Many kids at this school are VERY individualized, and NEEDS a quiet room, quiet space, not an area where all kids are crowded in one same room, we don't work like that. Some kids has mobility issues, and many can't walk up stairs, or speak, or learn the same way. If the school is closing, GIVE THE STUDENT A VOICE AND GIVE THEM A CHANCE TO HELP KEEP THIS SCHOOL OPEN!! Another note, you shouldn't be closing Bowness, you should actually consider closing DC DOWNTOWN. If you want to move students to a new place, give them a tour around the new place, make them feel like this is an OK school, feel welcomed and make them feel like they can transition smoothly, not just suddenly move them without their consent of feeling comfort. I really do hope you take EVERY STUDENTS OPINION INTO CONSIDERATION AND FIGHT TO KEEP THIS SCHOOL GOING... so thanks!

The change that is coming to our school in 2023-2024 and how this affects us students. I know that this is a difficult decision for those involved with the change that will happen, but I believe that this affects the students at Bowness more than people would assume. Bowness outreach is a school where kids feel acceptance and not have to fear that their differences will make them stand out and be prone to the mean things others do to each-other. I personally have never felt accepted in a school until attending this school, it has been the first time in my entire education journey where I am actually able to say I am happy to attend a school and build relationships with those around me. I am filled with concerns when it comes to this change and talk of change, there is not a main thing I worry about rather the worries vary so I will be covering the main issues I see and I hope to be given honest answers and not promised with things that won't m bet. Coming to this school my parents were met with no school fees, which was a weight lifted off of shoulders because money can become tight for my family. With this change we will be expected to start to pay fees because we'll be in a normal high-school setting. I wouldn't see this as fair for those who are not in financial positions to pay for education. I live in an area of the city where I don't live close to schools and many things such as bus stops which result in me having to take buses that are very far away and etc, so my question is are we guaranteed a way of transportation to this school. I know that many kids are of age to drive themselves but me being 15 and having two parents who work I have no way of getting to the new school.



Will we be promised to be away from other students? For many students the main thing we love about the school we are at at the moment is that we are no longer with thousands of students. I want to know if we will be promised to still have the treatment we have right now at our school. For the second courses that we are being promised, my main concern is how we would be taught in them. If we choose to pick up second courses we are expected to be in classes with other high-school students who already attend that high-school. because at that point it takes away the point of the separation from the other students. I saw this question being brought up but no true answer was given to it but I see it as a big concern, how will we be treated. Let's say a teacher in the normal public school came up to us, do they have the right to tell us to go to class or to not walk around the school if we needed a break. I personally can not deal with teachers who treat kids disrespectfully and expect nice treatment back. Another thing is will we be forced to attend assemblies, gym, etc. Many students in this school have left normal schools for those main reasons that they were not able to participate in those specific things due to mental health or health reasons. So are we being guaranteed that we will not be forced into these extra curricular activities. My main last concern is that other students won't be dropped into our class. I understand that many kids right now don't have a voice in public school to say that their environment isn't correct for them but I do not see how this is fair to students like us, if they were to be placed with us. I find the amount of students we have right now perfect but I feel like once we enter a public high-school many teachers will try to dump their bad behavior students into our environment and I feel as if this will just end with more students getting knocked off course rather than building relationships etc. And lastly I believe that the cbe is in this for themselves. Never once had someone come up to the students and ask if this was not a wise idea rather it was just how to transition into a new school, and half of the questions that were asked were not met with full on answers it seems like nobody has a plan and that the cbe sees us students as dollar signs rather than students who have needs that truly do need to be met or else we are just back to square one where most of us don't know if we will be able to make it to graduation. I really hope this message finds its way to someone who has care towards us students and our well-being and I hope things will change. thank you for your time.

My daughter does not want to attend if DC gets moved to a regular high school. A regular high school is large and busy, which creates anxiety for her. She likes the smaller building with fewer students and the flexibility and support DC offers her.

I am a little concerned as I recently moved my son out of a high school environment for a less stressful and more supportive one. So putting him right back there next year defeats the purpose of moving him in the first place. Also his teacher/student relationships are highly important - I wouldn't want to see him lose those relationships. Having a supportive environment and supportive staff is essential to his success. He requires a lot of flexibility and supportive interactions from his teachers, this is why we sought an alternative program in the first place. Happy to discuss further.

How are you going to make space for students? how will separate exit doors, washrooms, hallways, work? There should be a separate exit so that students in the discovering choices program don't have to go through the Robert Thirsk student crowd to get into the school. Maybe take the whole basement up for this



change as there is another exit door at the back and has washrooms and its own hallway where the Robert Thirsk students aren't allowed. How will you deal with fire alarms? I am sure discovering choices students would not want to be in the big crowd in with all the Robert Thirsk students. Before even moving all the students a tour should be given about how things will work and what the place looks like. I think the problem is students don't want to be in a school with other kids if it's a separate building near the crowfoot station and near Robert Thirsk high school it would be better (separate building not in the school) The students in this program are not ready to join a normal high school.

It would be great if my son could have at least one familiar face transitioning with him. He will not be able to continue with Nexus as it will be moving to Marlborough and transportation is an issue. He has always wanted to join a "regular" high school so this may be good for him if the proper supports are in place and he feels comfortable going to Thirsk. He would benefit greatly from visiting the new school and getting to know key support people as soon as possible.

I cannot function in a public school environment. I prefer learning here at DC Bowness. To transition smoothly, I will need my own space to work with nobody else and no distractions, I will need a separate entrance/exit, I will need to be able to have one on one connections with my teachers when I need it, I will need to have a smaller and dimmer space to function properly.

I don't believe the school should be moved, there is a reason kids want to attend DC and not a regular high school, less and less kids will attend if you move it for the fact of being a place where they could have had traumatic events occur, cause them stress or anxiety. Students need a Place to lean without the anxiety caused by a real high school.

What if the building (Thirsk) presents a challenge of anxiety for a student? There was a lack of support and compassion and that's why the student left

We left Robert Thirsk because a traditional school setting was not compatible with our learning style and situation. The Bowness location is perfect... it's away from the normal setting and gets my child away from the bad memories / pressure of that school. Hearing that we will be moving back to RTHS next year is the worst thing that could happen.

All of the new locations are a 20 min or longer drive from my house, and public transit is only longer. I don't consistently have access to a vehicle and I don't have a lot of time to waste on transit. This move would make it significantly more difficult for me to attend school.

My Son has mental health diagnosis and additional issues. Moving Bowness Nexus Program away from Bowness area which we consider a very safe location to Marlborough location is absolutely will result in his drop off from School. Despite his mental health issues he is intellectually unimpaired and absolutely able to finish school yet he does need special supports to do so. Bowness school was a saviour for my Son and



provides him a very positive baseline not only for education reasons but for learning to be engage in society at large. I hope the board will find the way to continue Bowness Nexus Program in its current location and not move it to Marlborough with known major issues where kids unavoidable will be exposed to crime and drugs. Bowness further away from Calgary Downtown problems is a perfect safe location for these kids.

My son attends discovering choices because he could not physically stand to enter into the bigger high school after being humiliated by a couple of teachers in front of peers- he mentioned that the smell, crowds of students and overall stress of being in a high school setting stopped him from attending classes. If he was to have to go back into a large population of high school students he would probably stop attending. The location of the NE discovery choices is amazing as he goes in and feels supported without the trauma of being in the building that was causing him stress and anxiety.

I want to keep my programming in the northwest area of the city because it is where I feel the safest and is most accessible to me via bus. I am in the nexus program which gives me the supports I need when I'm having a tough day or need support with my mental health, as well as having a smaller classroom within discovering choices. -With Nexus being moved to Marlborough, I do not feel safe in that area, I have bad memories. I will struggle to make the commute there. I have had substance use challenges in my past and am sober right now. I don't want to expose myself to that risk again in that area. I don't want to see people using as that is a trigger for me.

I am a staff member at DC Northgate. I know our space was designed for both hosting a Nexus classroom and a smaller population due to years of declining population. Unfortunately, this was due in part to an epically small space inside Marlborough Mall, and Covid/online education reducing our numbers even further. That has changed since we moved to our new space. Northgate is growing by leaps and bounds. We are currently sitting at 292 students, with over 40 registrations since Feb 1. We are seeing an average attendance of 70 kids a day, most of whom are regulars. We are already struggling finding space for registrations when groups are happening. We are seeing a high population of high anxiety students join us lately. There has been a large influx from other schools who are sending these students to us as they can't serve their needs in mainstream. Many of them work in the 3rd classroom as their needs are met more effectively in this space. If we move Bowness, we will be moving that Nexus classroom into Northgate, into the designated space currently occupied by Classroom 3. The students currently utilizing this space, the ones with high anxiety, will be required to work in the other classrooms. My biggest concern is we will lose the connection we have worked so hard to make with these students. As we go through the rest of 2021 school year and work through 2022 school year, we may see students with less anxiety as they get used to being around people again. Then again, we may not. I'm concerned we will lose the opportunity to help these kids reintegrate.

Do not move students into a regular high school with their own "special space". This will make students feel alienated in their own space as they have to go to their specialized program. As young people the anxiety of being differ or being seen as "stupid" is extremely stress inducing. Having to see our peers go into a regular



system could be embarrassing for some students. To add on if I know that my friends are right next door and they have a break nine times out of 10 I would leave class to join them or if they know that my school schedule is extremely flexible they are more likely to skip their classes and leave school. I believe that the students that attend discovering choices need to have they're separate safe space where they do not feel the confines of regular high school.

keep the bowness building please. The environment and atmosphere it provides cannot be recreated in a different setting. The integration of 2 schools will significantly impact students learning and their interaction with staff, due to the new factors such as unwanted attention from other students and a busier crowd. Although I'm a graduate student of 2022, the bowness site has definitely brought me back onto my feet through the amazing support from the staff. For the first year at bowness outreach, it was the spacious rooms and a tall ceiling within this building that got me through schooling. The individual rooms offered to students gave me comfort and security for me to be successful in my academics while my mental health was recovering. I just want you to know I want future students to have the same opportunity that I was given, and have them experience it for themselves. Please give this plead some thoughts.

dont move it we need are own building. i cant agree with this. the point of start is to not be at a normal school.

# Discovering Choices Staff Survey Results Report

March 18, 2022

*dialogue*)))



**Calgary Board  
of Education**

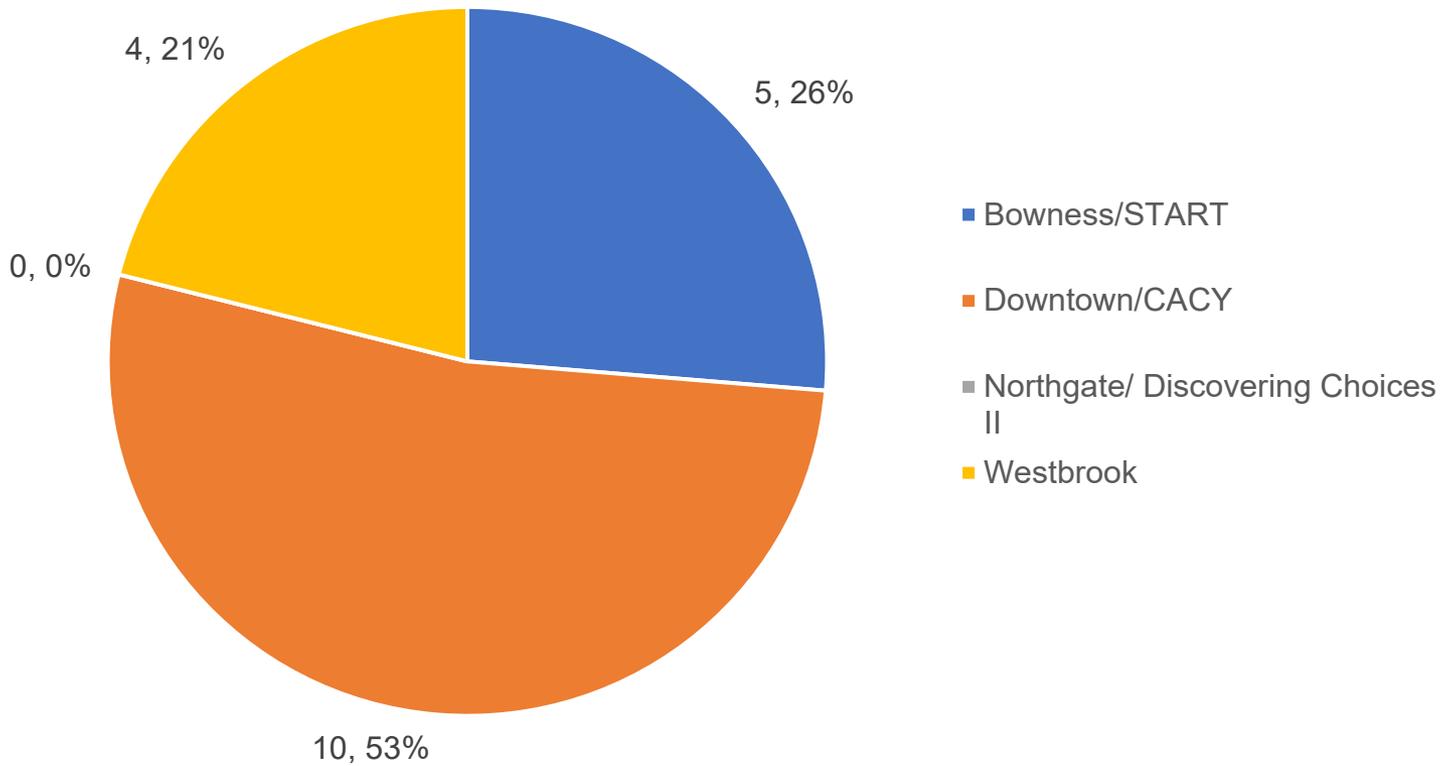
# Background

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- This online survey was available to staff March 2-17, 2022.
- The purpose of the survey was to gather input to inform the implementation plan that will support a smooth transition for affected staff and families should the board approve moving these programs. The implementation plan will be communicated publicly by October 2022.
- The level of response to each question varies and is noted for each survey question.

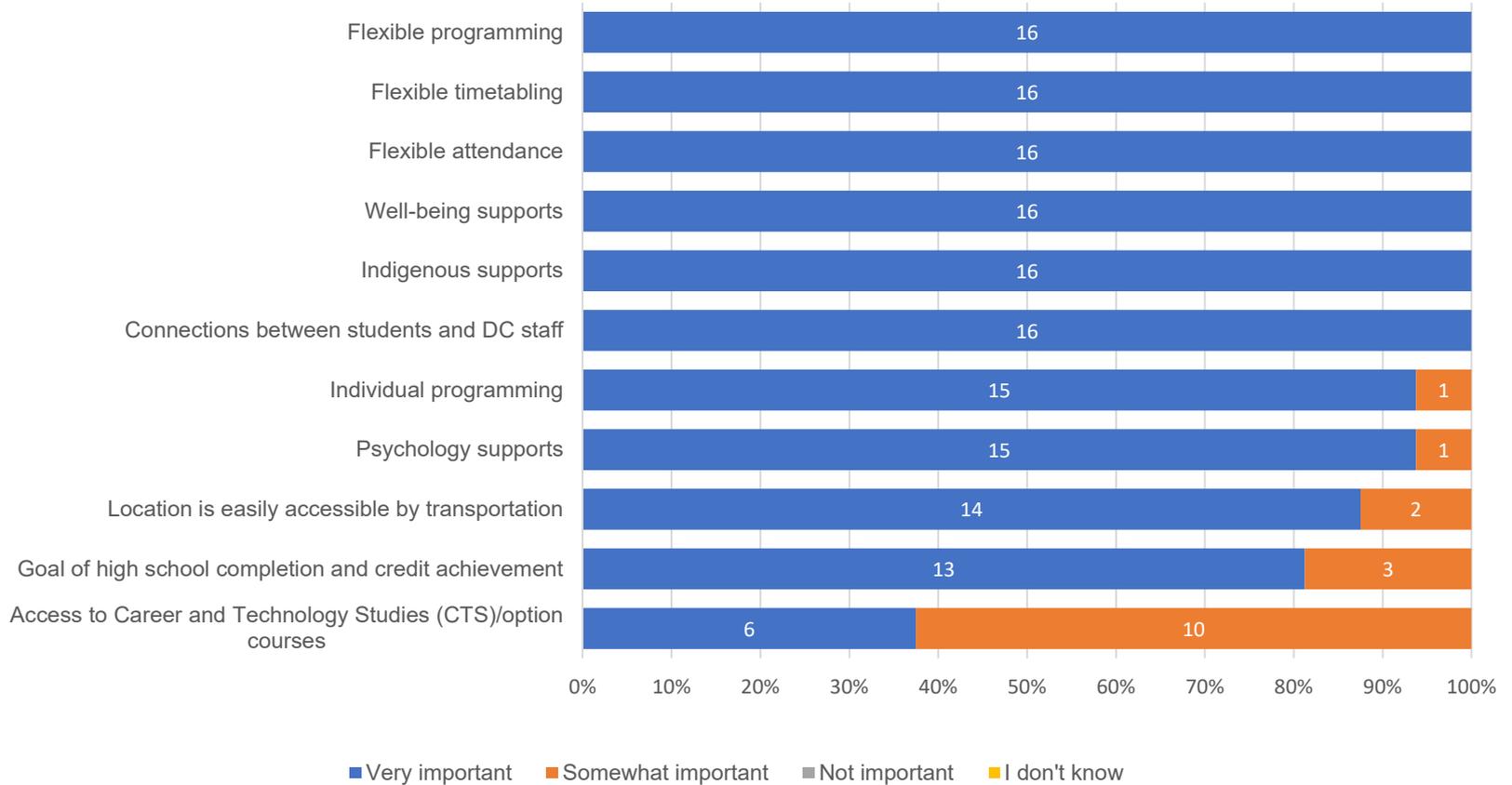
# Please indicate your current program location:

Responses: 19



# Please indicate how important the following aspects of the Discovering Choices Program are to you at your current site.

Responses: 16



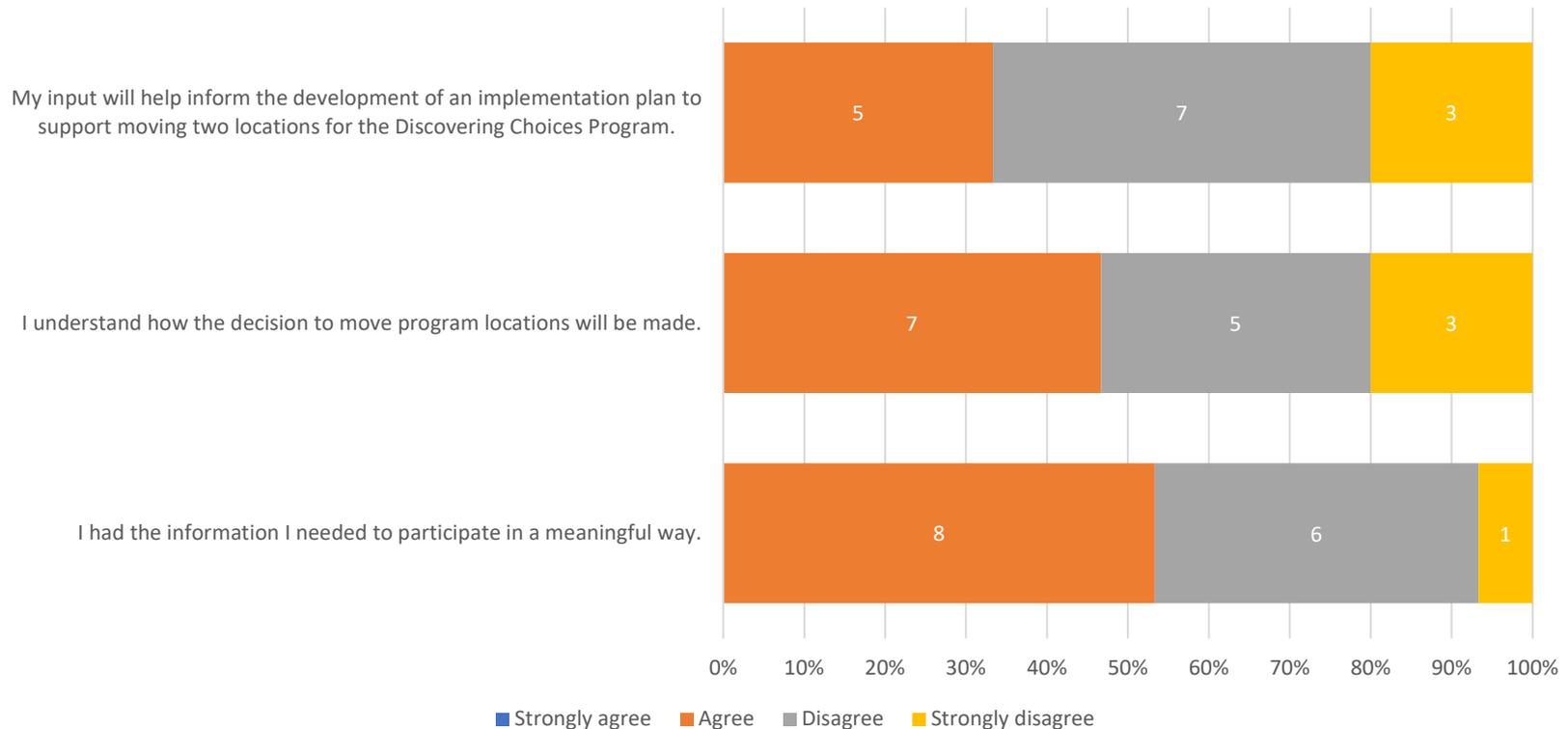
If you have any additional thoughts to share about how we can provide a smooth transition for Discovering Choices staff and students, please share them below.

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- See page 7 onward for verbatim responses

# Please indicate the extent to which you agree or disagree with the following statements:

Responses: 15





**If you have any additional thoughts to share about how we can provide a smooth transition for Discovering Choices staff and students, please share them below.** *(Comments are provided as they were written. Comments have not been edited for accuracy, spelling, grammar, sentence structure or otherwise. Comments have been edited to ensure anonymity. We also edited for omitted abusive, discriminatory and otherwise inappropriate comments.)*

Outreach is based on individual programming, meeting at student where they're at, individualizing what success looks like, flexibility, personalization, ongoing enrollment and being non-semestered. It's about supported failing and promoting growth opportunities, comprehensive supports and student and staff collaboration. At its core, it's based foremost on relationship building and hope, thus to ensure a smooth transition, funding, resources, collaboration, inclusive decision making, student voice, transparency and maintaining the essence of these characteristics are critical.

It is paramount that students, staff, and community members have input into the pending changes. Feeling heard and included in the process will translate into a more successful transition. Not simply completing a survey with very limited room for "input". A real conversation that honours the values and beliefs which have evolved over time to create a school of choice for over 1200 students a year. As staff, we aren't opposed to change and understand the need for fiscal responsibility. We also know our students and what will help set them up to be responsible citizens. During registrations, MANY of our students cite their primary reason for leaving a traditional high school is feeling anxious in the building itself and by large numbers of students and staff in the same space. What will be offered to these students as an alternative? Had we been asked, I believe that many staff would have been on board with closing Bowness and welcoming students and staff into the 3 other sites. It is clear from the language in this survey that our expertise was not important enough to be included.

In the meeting it was suggested that an academic program would continue, but it was also stated students will have access to CTS, and other programming in their new location. With our program having continuous enrollment and not being semestered, as well as the inability of many of our students to meet the requirements of traditional programs, I want to advocate for programs such as PhysEd and CTS to still be accessed through Outreach programming or that our students will have access to a flexible program. In the new program locations, having access to a few classrooms was mentioned. We have many students with mental health and social/ emotional challenges. Our programs regularly use break out rooms to provide privacy for students to talk with staff, or to work quietly if they are feeling particularly anxious. Having the space to meet these ongoing needs would help students stay in the school building and help them to be successful in their learning. An intentional plan around managing school expectations for students would be incredibly helpful. Again, students who have struggled with the structures of a traditional program often find success with us. How can we ensure that students will be able to continue to focus on learning when they come to school, not the structures that previously didn't work for them? In terms of staffing, in



conversations between staff I've heard there is a lot of uncertainty about the future of Outreach. As things start to change what is the commitment of the CBE to these programs? It would go a long way if staff understood system intentions. Most staff are connected to this program because of their commitment to the type of work we do with students. If staff are placed in an Outreach program in a high school, how long does the board intend to keep this as an Outreach program? Is there a further plan to absorb these programs into their host schools? Is there a timeline on when we will know where staff will be placed? With redundancies in staffing at new locations will positions be lost? I would say staff are highly committed to Outreach and the success of its programs, but this level of uncertainty makes buy in more challenging. If I have other ideas/ input is there a way to share further?

It is important for The DC site at Robert Thirsk to have it's own identity, it's own space.

The vulnerability of Discovering Choices students (DC) needs to be paramount in the decisions made. Many have experienced trauma and significantly detrimental life circumstances. They come to DC because traditional high schools have contributed to their difficulties and were unable to meet their needs. Housing two DC programs within traditional high schools presents many challenges and we must be mindful of protecting these vulnerable students, without drawing more attention to their unique needs. Outreach has always been a separate entity because that is the only proven design that is effective. The Calgary Board of Education (CBE) already has specialized programming within traditional schools, and DC frequently registers students who were not successful in these programs. The flexibility, accessibility, and extensive support necessary for DC students to be successful will be extremely difficult to offer from within Robert Thirsk and Alternative High schools. A better solution would be to close down either the Bowness or Westbrook DC location temporarily and find a new separate place to house the other that is between Bowness and Westbrook and easily accessible by Calgary Transit. If students truly do come first in the CBE and safe and caring environments are a priority, maintaining our outreach programs by valuing their stand-alone design and prioritizing their funding is crucial. In times of funding deficits, it becomes even more necessary to support the most marginalized and vulnerable students effectively.

Recognizing that students who do well at Discovering Choices and are successful in the outreach program, are also those who do not/are not successful in large traditional school settings. Large populations, strict rule environments and highly scheduled settings. Being able to recognize this when moving into Thirsk/Alternative settings might be a challenge, since you are moving into settings that perhaps are the problems for students that are successful within the outreach programs.

I am concerned that being located in a traditional setting will be detrimental to student attendance. Better options would be elementary schools or stand alone buildings so that our students are not connected to locations where they have experienced trauma, anxiety, and peer issues.



I worry that this transition is going to cause students to not come. In reach programs in the CBE have never worked and have been very ineffective. It is tough for us as a staff to not worry that a program we have built is not going to be in these schools for a year or two then chewed up and spit out. I also for see that because these two programs are being moved to place with difficult transit to reach (no c train for alti and a long walk to the train for thursk) I also worry about being isolated from the programs at these high schools. We do need to function different then the traditional highschool but we still need to be able to work with the staff in the building. A sperate entrance for our program may be needed also with awareness that we may need to allow students to come and go as they need. As blow ups or anxiety attack's happen we need to be able to use the hall way or outdoor space to do this. Our students do not work well on schedules so if the expectation is that they only move through the halls during the schedule times it wont work. It will need to be viewed as and treated positively by the tradition space we cant have school staff treating it as a punishment or less then program that will be destructive we have had in our programs all levels of students abiltiy from math 30-1 to k and e our students need to have a positive stigma around them not negative and that is very important. Support staff BSW and ISW are very important to us i know ISW can mark but that is not what we normally need from support staff we need experience staff to help with the complex struggles our students deal with. If our students are in crisis or no food security they are not learning and our support staff have done wonders supporting students in these areas so we teachers can do our jobs and get them to graduation. I don't think this move is the right way to deal with this but based on the way you have worded the question this survey is not a consultation on if but how.

With the limitations that are present being housed an office building, the PE, outdoor leadership, Jam club and art teachers/staff have done an incredible job of craving out spaces, options and opportunities for the DT DC students to have access to meaningful and interesting options experiences and classes. With the impending changes, it would be optimal to have blocks of time for DC students in the dedicated spaces of Thursk and Alternative high schools i.e. time in the gym, time in the labs, time in the weight room, art rooms. I think it will be important to have this NOT be time blended with students of Alternative and Thursk with teachers of those High Schools but with the DC teachers who have established mutually respectful relationships and expectations based on the individual DC students needs. While some DC students will be able to join mainstream classes and walk in both worlds, some DC students will not and I hope that those that cannot will be offered equal access to resources in the school buildings with the supports that they require that are offered in outreach. The DT site no longer has the same level of Indigenous supports due to the changes to the strategies for Indigenous education in the CBE and the move of the CACY Catholic Family Services youth worker to Louise Dean - there are no specific targeted Indigenous services DT . However, it remains important for our Indigenous students to have access to information about community connections and to have staff who are knowable and connected to the happenings in the community as well as having a large visual representation of Indigenous students.



I hope that we will be able to continue to offer the option courses that are currently available to our students.

## report to Board of Trustees

### Locally Developed Courses

Date	April 26, 2022
Meeting Type	Regular Meeting, Public Agenda
To	Board of Trustees
From	Christopher Usih, Chief Superintendent of Schools
Purpose	Decision
Originator	Joanne Pitman, Superintendent, School Improvement
Governance Policy Reference	Locally Developed Courses R-2: Academic Success OE- 3: Instructional Program
Resource Person(s)	Ken Weipert , Education Director, School Improvement Stephanie Chan, Specialist, School Improvement Alexandra Hunt, Specialist, School Improvement

#### 1 | Recommendation

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It is recommended:

- THAT the Board of Trustees approves the Locally Developed Courses listed in Appendix I for school use in The Calgary Board of Education, for the authorization periods set by Alberta Education.

#### 2 | Issue

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Alberta Education's "*Guide to Education*" under School Authority Procedures indicates, "*School authorities offering locally developed courses must develop, implement and maintain current written procedures consistent with the Guide. School authorities must approve LDCs by a resolution or motion of the board of a school authority or governing body of a private school prior to offering the LDCs.*"

In order to offer the courses for students, Board of Trustee approval is required.



### 3 | Analysis

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The Calgary Board of Education supports students' learning by enhancing and extending Alberta Education's provincial curriculum by developing and acquiring Locally Developed Courses. Creating or acquiring a Locally Developed Course for all students begins with identifying a student need. Following the criteria for content provided by Alberta Education in a Locally Developed Course, the Education Director, in collaboration with the team, supports writing the course or acquiring the course each of which requires authorization from Alberta Education for High School courses. All Kindergarten to Grade 9 Locally Developed Courses follow the same process with the exception that they do not require Alberta Education authorization.

When developing a new high school course to receive authorization from Alberta Education, it is scrutinized to determine the amount of overlap with existing provincial curriculum and previously developed or acquired Locally Developed Courses already written. If there is overlap, but not significant; a rationale is included as part of the submission as to why there is a specific student learning. A Locally Developed Course requires a certificated teacher.

Before acquiring a Locally Developed Course, the Calgary Board of Education reviews the course outline to determine if the course meets student learning needs and, if appropriate, requests permission from the developing Alberta jurisdiction to offer the course for students. Once permission is granted and the developing jurisdiction approves, Alberta Education issues a letter outlining the required information to seek Board of Trustees approval. The letter provides the name of the course, start date and end date, course code for student registration, and the name of the jurisdiction who has authored the course. The content of the letter forms the information required in the Report to Trustees included in Appendix I.

Locally Developed Courses (LDC) are authorized by Alberta Education for a maximum period of four years. Prior to expiring, each course is reviewed to determine if adaptations are needed to better support student learning. The review process includes, but is not limited to, whether or not the course content is current; if student enrollment increases, continues or declines; if another course is available for meeting the learning needs. Once completed, whether developed or acquired, if the course continues as is with the exception of the authorization timeline, the course name along with the required information is recorded in Appendix I for Board of Trustee approval for the new authorization timeline.

If it is determined a course is no longer needed nor has student interest; with Board of Trustees approval, the course is withdrawn from the course board and indicated in Appendix I with the rationale in Appendix II.

Procedures for authorizing a Locally Developed Course outlined in the Guide to Education include the expectation that all school authorities have a board motion approving developed, acquired; and withdrawing of Locally Developed Courses for the specified time reflected in Appendix I. Appendix II provides rationale for the approval requested for newly developed, newly acquired, withdrawing and changes (such as extensions or naming conventions) Locally Developed Courses for use in The Calgary Board of Education.

## 4 | Implementation Consequences

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Calgary Board of Education Operational Expectations OE-3: Instructional Program states,

*“The Board of Trustees believes that providing high quality programming for all students is essential for student success...”*

*The Chief Superintendent shall:*

*3.1 Plan for and provide challenging, relevant and high quality programming opportunities that consider the educational needs of students, the choices of families, and the fiscal and operational capacity of the organization.*

*3.2 Ensure that the instructional program is regularly evaluated and modified as necessary.”*

Alberta Education’s *Guide to Education* on Locally Developed Courses states,

*“School authorities have the flexibility to develop or acquire locally developed courses (LDCs) to address particular student and/or community needs. These learning opportunities complement, extend and/or expand upon provincial programs of study. LDCs may be used to accommodate student needs and interests; encourage and support innovative learning and teaching practices; address unique community priorities; e.g., language, culture, labour market needs; engage students who may be at risk of leaving school early; promote successful transitions to further education by exposing students to advanced subject matter and learning environments; e.g., Advanced Placement, International Baccalaureate.”*

Procedures for authorizing a Locally Developed Course outlined in the Guide to Education include the expectation that all school authorities have a board motion approving developed, acquired; and withdrawing of Locally Developed Courses for the specified time reflected in Appendix I. A decision is made by the originating district to continue developing and acquiring or seek approval to remove from the Board of Trustees’ approved course listing. Notice of authorization of the recommendations in this report is provided to Alberta Education’s Curriculum Branch, when requested, and The Calgary Board of Education staff.

The Calgary Board of Education’s intention is to facilitate seamless access for students by seeking approval for the recommendations outlined in Appendix I and the rationale outlined in Appendix II. Copies of the new course outlines are available to all staff in The Calgary Board of Education through the “Insite”.

## 5 | Conclusion

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Board of Trustee's approval of all locally developed courses will ensure that The Calgary Board of Education is compliant with the *Guide to Education* requirements. Approval of these courses will enable The Calgary Board of Education to be responsive to the learning needs of our students.



**CHRISTOPHER USIH**  
**CHIEF SUPERINTENDENT OF SCHOOLS**

### APPENDICES

- Appendix I: Locally Developed Courses Recommendations
- Appendix II: Rationale for approval needed for Locally Developed Courses

### GLOSSARY – Developed by the Board of Trustees

Board: Board of Trustees

Governance Culture: The Board defined its own work and how it will be carried out. These policies clearly state the expectations the Board has for individual and collective behaviour.

Board/Chief Superintendent Relationship: The Board defined in policy how authority is delegated to its only point of connection – the Chief Superintendent – and how the Chief Superintendent's performance will be evaluated.

Operational Expectations: These policies define both the nonnegotiable expectations and the clear boundaries within which the Chief Superintendent and staff must operate. They articulate the actions and decisions the Board would find either absolutely necessary or totally unacceptable.

Results: These are our statements of outcomes for each student in our district. The Results policies become the Chief Superintendent's and the organization's performance targets and form the basis for judging organization and Chief Superintendent performance.

## Appendix I | Locally Developed Courses Recommendations

### Developed | September 1, 2022 to August 31, 2026

- Arabic Language & Culture 3Y (2022) (15-5; 25-5; 35-5)
- Astronomy (2022) (15-3; 25-3; 35-3)
- Aviation-Structures (2022) (25-3; 35-3)
- Guitar (2022) (15-3/5; 25-3/5; 35-3/5)
- Intercultural Studies (2022) (15-3)
- Leadership in the Arts (2022) (35-3/5)
- Sculpting (2022) (15-5; 25-5; 35-5)
- Technical Theatre (2022) (15-3/5; 25-3/5; 35-3/5)
- ASL & Deaf Culture Introduction (2022) (7-8-9)
- Guitar (2022) (5-6-7-8-9)

### Extended | September 1, 2022 to August 31 of year indicated

- Chemistry (IB) (25-5) expiry August 31, 2023
- Chemistry (IB) (35-5) expiry August 31, 2024
- Physics (IB) (25-3; 25-5) expiry August 31, 2023
- Physics (IB) (35-5) expiry August 31, 2024
- Biology (IB) (25-3) expiry August 31, 2023
- Biology (IB) (35-5) expiry August 31, 2024

### Acquired | September 1, 2022 to August 31 of year indicated:

From The Edmonton School Division: August 31, 2026

- American Sign Language and Deaf Culture 3Y (2022) (15-5; 25-5; 35-5)
- Drawing (2022) (15-5; 25-5; 35-5)
- Speech and Debate (2022) (15-3; 25-3; 35-3)

From The Red Deer School Division: August 31, 2026

- Competencies in Math (2022) (15-3/5)

From the St. Albert School Division: August 31, 2025

- Chemistry (Advanced) (35-3)

Withdraw | effective August 31, 2022

- Russian Language and Culture 3Y (15-5; 25-5; 35-5)



## Appendix II | Locally Developed Courses Rationale

### **Chemistry (Advanced) (35-3) (acquire)**

Both The Calgary School Division and the St. Albert School Division developed Chemistry (Advanced). Alberta Education requires Locally Developed Courses to not have significant overlap with existing provincially authorized curriculum nor significant overlap with other Locally Developed Courses. In the spirit of collaboration, after consultation with the St. Albert School Division, it was determined that the St. Albert School Division would continue to submit their Locally Developed Course for Alberta Education's authorization and the Calgary Board of Education would acquire. Alberta Education advised that St. Alberts course, based on the current Advanced Placement (AP) 2016 outline, would be extended to coincide with the Advanced Placement Board's end date. It is recommended that the Board of Trustees approve ending the developed version and acquire the St. Albert School Division's **Chemistry (Advanced)**.

### **International Baccalaureate (IB) (extended)**

International Baccalaureate extended IB® courses and Alberta Education aligned the expiry dates for Locally Developed Courses to coincide. The extension of Locally Developed Courses based on IB courses until the new end date requires Board of Trustee approval for the additional year(s).

### **Russian Language and Culture 3Y (15-25-35 / 5) (withdraw)**

The course was reviewed and found to have neither student interest nor enrollment. Should student interest renew, this course can be acquired once again from the developing jurisdiction. It is recommended this course be withdrawn from the list of approved Locally Developed Courses offered to students enrolled in the Calgary Board of Education.

### **Sculpting (Advanced Techniques) and Drawing (Advanced Techniques)**

To ensure clarity within course content, Alberta Education is requesting jurisdictions adjust course names by removing the word (Advanced) for all courses with the exception of Locally Developed Courses based on Advanced Placement (AP) content. As a result, it is recommended that Sculpting (Advanced Techniques) and Drawing (Advanced Techniques) be named to **Sculpting** and **Drawing** respectively.



# report to Board of Trustees

## Office of the Board of Trustees 2022-23 Operating Budget

Date	April 26, 2022
Meeting Type	Regular Meeting, Public Agenda
To	Board of Trustees
From	Christopher Usih, Chief Superintendent of Schools
Purpose	Decision
Originator	Trustee Laura Hack Board Chair, on behalf of the Board of Trustees
Governance Policy Reference	OE-5: Financial Planning
Resource Person(s)	Brad Grundy, Superintendent, Chief Financial Officer, Corporate Treasurer Patricia Minor, Corporate Secretary

### 1 | Recommendation

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It is recommended:

- THAT the Board of Trustees approves the 2022-23 budget for the Office of the Board of Trustees of \$1,561,930, and it to be reasonable to allow the Board to effectively and efficiently perform its governing responsibilities.

### 2 | Issue

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The Chief Superintendent is required by Operational Expectation 5 subsection 5.3 to develop a budget that is understandable to the Board and presented in a manner that allows the Board to understand the relationship between the budget, the Results priorities and any Operational Expectation goals for the year while avoiding fiscal jeopardy.

### 3 | Background

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The Office of the Board of Trustees' budget for 2021-22 was approved at \$1,571,891.

The Chief Superintendent has prepared a report regarding the 2022-23 budget for the Office of the Board of Trustees that incorporates the budget assumptions as they relate to the Office of the Board of Trustees' budget and reflects the outcome of any decisions related to the Board's consideration of Trustee Remuneration.

- Remuneration remains consistent with 2021-22 and will be as follows:

Trustees:	\$45,000
Chair:	An additional \$10,000
Vice-Chair:	An additional \$5,000

- GC-2E states that in addition to honoraria, each Trustee will receive a taxable benefit package worth 10% of basic honorarium and an annual taxable transportation allowance of \$4,100. There is no change to this policy from the prior year.
- GC-2E also states that at the end of each Trustee’s service, each Trustee shall be entitled to a retiring allowance based on the number of terms completed. As such, an annual retirement accrual is included as a component of the salaries budget. The amount varies depending on the number of terms each Trustee has completed and amounts previously accrued.
- Dues and Fees have increased by \$3,500 as a result of rising ASCA fees and more schools opting to attend the ASCA conference.
- The election accrual expense budget has increased by 7% inflation. The increase is spread over four years for the 2025 elections and results in an annual increase in the election accrual budget of \$60,278.
- The audit expense budget has been increased by \$16,709 due to an increase in LAAP and base audit fees.
- The Teachers’ Employer Bargaining Association (TEBA) fees budget of \$100,000 has been removed as there are no planned TEBA fees for the 2022-23 school year.

#### 4 | Analysis

The following is a summary of all proposed changes to the 2022-23 Office of the Board of Trustees budget:

<b>2021-22 Approved budget</b>	<b>\$1,571,891</b>
Increases/(decreases):	
Salaries and benefits due to retirement accrual	7,214
CPP rate change	2,338
Audit fees budget for LAAP and base audit	16,709
Dues and fees budget for ASCA fees	3,500
Annual election accrual expenses	60,278
TEBA fees	(100,000)
<b>Total decrease in expenses</b>	<b>(9,961)</b>
<b>2022-23 proposed budget</b>	<b>\$1,561,930</b>

The Office of the Board of Trustees’ budget does not include the cost of services and supports provided by the service units in delivering on the Board’s governance

responsibilities. Service and support costs to the Board are absorbed by the budget of the relevant service unit.

Please refer to Attachment I for a year-over-year comparison and the proposed Board of Trustees Operating Budget for 2022-23.

## 5 | Conclusion

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This report meets the monitoring requirements of the OE 5: Financial Planning.



**CHRISTOPHER USIH**  
**CHIEF SUPERINTENDENT OF SCHOOLS**

### **ATTACHMENTS**

Attachment I: Proposed Board of Trustees 2022-23 Operating Budget

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Results: These are our statements of outcomes for each student in our district. The Results policies become the Chief Superintendent's and the organization's performance targets and form the basis for judging organization and Chief Superintendent performance.

**Calgary Board of Education  
Board of Trustees  
2022-23 Operating Budget**

Category	2021-22 Approved	Changes	2022-23 Proposed
<b>Total Permanent Salaries &amp; Benefits</b>	<b>\$ 453,036</b>	<b>\$ 9,552</b>	<b>\$ 462,588</b>
ASBA Membership Fees	\$ 239,000		\$ 239,000
ASCA Membership Fees	\$ 5,000	\$ 3,500	\$ 8,500
Contribution to school council support	\$ 5,000		\$ 5,000
TEBA Fees	\$ 100,000	\$(100,000)	\$ -
<b>Total Membership Dues and Fees</b>	<b>\$ 349,000</b>	<b>\$ (96,500)</b>	<b>\$ 252,500</b>
General & Contracted Out Services	\$ 50,000		\$ 50,000
Audit Fees	\$ 210,418	\$ 16,709	\$ 227,127
Elections	\$ 467,687	\$ 60,278	\$ 527,965
<b>Total Professional &amp; Technical</b>	<b>\$ 728,105</b>	<b>\$ 76,987</b>	<b>\$ 805,092</b>
<b>Total Telephone</b>	<b>\$ 7,000</b>	<b>\$ -</b>	<b>\$ 7,000</b>
Trustee PD & Travel	\$ 14,000		\$ 14,000
ASBA & General Trustee Travel	\$ 16,750		\$ 16,750
<b>Total Travel &amp; Subsistence Business</b>	<b>\$ 30,750</b>	<b>\$ -</b>	<b>\$ 30,750</b>
General	\$ 2,000		\$ 2,000
Café Food	\$ 1,000		\$ 1,000
Printing & Binding	\$ 500		\$ 500
Textbooks & Materials	\$ 500		\$ 500
<b>Total Supplies</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ 4,000</b>
<b>Total Expense Budget</b>	<b>\$ 1,571,891</b>	<b>\$ (9,961)</b>	<b>\$ 1,561,930</b>

report to  
Board of Trustees

CBE Sustainability Framework Update

Date | April 26, 2022

Meeting Type | Regular Meeting, Public Agenda

To | Board of Trustees

From | Christopher Usih  
Chief Superintendent of Schools

Purpose | Information

Originator | Dany Breton  
Superintendent, Facilities and Environmental Services

Governance Policy Reference | Operational Expectations  
OE-3 Instructional Program  
OE-5 Financial Planning  
OE-7 Communication With and Support for the Board  
OE-8 Communicating and Engaging With the Public  
OE-9 Facilities

Resource Person(s) | Joanne Pitman, Superintendent of School Improvement  
Andrea Holowka, Superintendent of School Improvement  
Brad Grundy, Superintendent, Finance/Technology Services  
Rob Armstrong, Superintendent, Human Resources  
Marla Martin-Esposito, Chief Communications Officer  
Denise Sauverwald, Policy Coordinator  
Sheila Farid, Director, Facility Operations  
Brenda Gibson, Manager, Transportation Services  
Sanjeev Sharma, Acting Director, Facility Projects  
Olena Olafson, Sustainability Coordinator, Facility Projects  
Peter Jeffrey, Manager, Maintenance Projects  
Erin Hafichuk, Manger, Capital Planning and Development  
Deborah Wehnes, Waste and Recycling Coordinator, Facility Projects

## 1 | Recommendation

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It is recommended:

- THAT the Board of Trustees receives this report and the Calgary Board of Education's Sustainability Framework 2030, as shown in Attachment V of this report, for information.

## 2 | Issue

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The currently published Calgary Board of Education (CBE) Sustainability Framework sets targets for the year 2020. This report provides a summary of 2020 results and recommended targets for the year 2030.

## 3 | Background

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The CBE has a considerable legacy of leadership and success in environmental education and energy management on both an individual school and system level. The CBE's commitment to environmental sustainability is laid out within the following Operational Expectations (OE) and Results: OE-9 Facilities and Results 3 Citizenship.

In keeping with the direction provided by the Board of Trustees, the CBE Sustainability Framework was created in 2014. It was subsequently reviewed in 2018, with targets established out to 2020 (Attachment I). This report provides an update on actual 2020 results versus the targets. Additionally, this report provides the recommended targets for 2030 that align with local and global targets, to ensure continuous progress in the area of environmental stewardship and sustainability.

## 4 | Analysis

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One of the most popular definitions of sustainability is actually a definition of sustainable development. It is from the Brundtland Commission Report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

In other words, sustainability is about developing an ecologically aware, socially just, and economically responsible society.

K-12 school districts play an important role in shaping the path to a healthy, just and sustainable future by preparing students to take their place as lifelong learners and citizens who make a significant contribution within a complex, changing world.

The CBE Sustainability Framework supports a formal commitment to a sustainable future. The table below provides an overview of each 2020 target, a visual indicator of whether the target was met, and a brief description of the results. The pages that follow provide a more detailed summary of the 2020 targets and their results.

Progress Indicator:  met  neutral  not met

Target	Met	Comment
<b>Student Achievement</b>		
Instructional design and leadership support sustainability as a focus of inquiry related to all core subject areas that engages students as sustainability leaders.		CBE schools use sustainability as a focus of inquiry in learning and engage students as sustainability leaders in action projects. This work is ongoing.
The CBE takes a proactive approach to promoting a diverse, inclusive, and welcoming culture that ensures the academic and social success of all students.		CBE schools are safe, positive, inclusive, equitable and welcoming learning and working environments that support and respond to the needs of students and staff. This work is ongoing.
<b>Employee Development</b>		
The CBE dedicates resources to sustainability coordination, incorporating sustainability into CBE policies and strategic plans, and developing action plans to move towards sustainability.		Success in achieving sustainability targets requires all of CBE to support and participate in sustainability initiatives. This work is ongoing.
The CBE incorporates sustainability into their human resources programs, policies, staff training, and development.		CBE's commitment to environmental sustainability is laid out in OE-9 Facilities, and the Education Plan.  Staff training and development is ongoing.
<b>Community Engagement</b>		
The CBE gives back to its community through community service, engagement, and partnerships.		The CBE partners with a number of organizations to collaborate on sustainability programs and initiatives, as well as help deliver quality education programs to students.
The CBE has formal and informal partnership(s) with the local community, including government agencies, non-profit organizations, or other entities, to work together to advance sustainability within the community.		
<b>Building Design, Construction, Operations and Maintenance</b>		

The CBE builds, operates, and maintains its buildings in ways that protect the health of building occupants and the environment.	✓	The CBE has a number of policies and programs in place to support this target.
All new construction and major renovation projects are, at a minimum, LEED Silver certified.	✓	18 sites are LEED Silver Certified. 15 sites are LEED Gold certified.
GHG emissions are reduced by 12% by 2020 (from 2010-11 levels).	✓	A net reduction of 15 per cent in adjusted greenhouse gas emissions* from 2010-11 to 2019-20  *Emissions impacted by COVID-19 operational measures and restrictions. For comparison, in 2018-19 there was a net reduction of almost 2 per cent in GHG emissions, from 2010-11 levels.
The CBE manages and/or reduces energy consumption to the following energy utilization intensity targets, by 2020:  0.92 GJ/m <sup>2</sup> for elementary schools; and  1.08 GJ/m <sup>2</sup> for middle/junior and senior high schools	✓	For elementary schools, the average energy intensity was 0.75 GJ/m <sup>2</sup> . (29 schools did not meet the target.)  For middle/junior and senior high schools, the average energy intensity was 0.68 GJ/m <sup>2</sup> . (Five schools did not meet the target)
The CBE manages and/or reduces water consumption to 4m <sup>3</sup> per student per year, by 2020.	✓	3m <sup>3</sup> * per student for the year 2019-20.  *Water consumption was impacted by COVID-19 operational measures and restrictions; the mid-year value (assessed in Feb 2020) equated to 3.8m <sup>3</sup> per student for the year, on track to meet the target.
The CBE reduces waste going to landfill by 80% by 2020 (from 2007-08 levels).	✗	CBE reduced waste to landfill by 78 per cent by 2020, from 2007-08 levels  *Waste to landfill was impacted by COVID-19 operational measures and restrictions; there was an increase in waste to landfill during spring 2020 to remove soft furnishings and clutter from schools.
CBE schools reduce their dependency on fossil fuels through the incorporation of photovoltaic systems on schools.	✓	In 2019-20 the solar generation was approx. 303 MWh or 0.5 per cent of total electricity consumption. Solar projects currently underway will bring this amount to 4 per cent of total electricity consumption by the end of 2021-22.
<b>Purchasing</b>		

The CBE chooses environmentally and socially preferable products and services, and supports companies with strong commitments to sustainability.	■	The CBE considers social and environmental impacts in specific product and service selections and agreements.
<b>Transportation</b>		
The CBE works to reduce its dependency on petroleum-based fuels for transportation.	■	The CBE is more efficient in its transportation and fleet services and works with student transportation service providers to be more efficient.

### Student Achievement Targets

- *Target: Instructional design and leadership support sustainability as a focus of inquiry related to all core subject areas that engages students as sustainability leaders.*

There are many examples throughout the CBE of schools using sustainability as a focus of inquiry and engaging students as sustainability leaders. Three examples are highlighted below.

#### 1. Mayor’s Environment Expo and The City of Calgary EcoLeaders Program

The 2019 Mayor’s Environment Expo took place June 4-6, 2019, in conjunction with National Environment Week. The Expo fosters environmental behaviour change through educational and interactive exhibits and workshops aimed at youth. It ensures we have well-educated environmental stewards that practice and promote environmental sustainability. In 2019, an estimated 3,000 CBE students and teachers attended the Expo.

Through The City of Calgary’s EcoLeaders program, student teams are challenged to identify an environmental problem and contribute to a solution that positively impacts their community. By engaging in these curriculum-linked projects, students build their leadership, eco-literacy and commitment to environmental sustainability. This year, 24 CBE schools from K-12, addressed issues related to waste, water and energy, as well raising awareness about our natural world.

Attachment II provides a summary of some of the amazing projects that were part of the EcoLeaders program and showcased at the Mayor’s Environment Expo.

#### 2. Good Day Sunshine Solar Project

This project, named ‘Good Day Sunshine’ by the students at the participating schools – Highwood, Senator Patrick Burns, Dr. E. W. Coffin, Chinook Park and Midnapore – was jointly funded by the CBE, Bullfrog Power, and the Municipal Climate Change Action Centre (MCCAC). These five solar projects generate approximately 60 megawatt hours (MWh) per year and offset about 38 tonnes of CO2 emissions.

In addition to the technical equipment, these schools are integrating the solar system data into their school environmental and energy literacy initiatives. These

schools piloted a new learning resource developed by the Critical Thinking Consortium, in collaboration with Emerging Leaders for Solar Energy (ELSE) and funded by a grant from the Community Environment Action Grant program. The 'Shining a Light on Solar Energy' resource explores the roles that solar power might play in providing sustainable energy for our vehicles, homes, schools, and communities. This resource was created to support educators and learners in developing energy and climate literacy using critical inquiry and a multidisciplinary approach.

### 3. EcoSchools

EcoSchools Canada offers a certification program for K-12 schools that nurtures environmental learning and climate action. This award-winning, curriculum-linked framework supports school communities as they assess, track, benchmark, and celebrate environmental excellence.

2020-21 was the first year that CBE schools participated in EcoSchools. This happened, in part, because The City of Calgary EcoLeaders program transitioned to EcoSchools. All schools that participated in the EcoLeaders program the previous year were invited to register as an EcoSchool; each had the opportunity to (virtually) present their project to the Mayor. The schools that transitioned and had the opportunity to present to the Mayor were: Collingwood, Killarney, Nickle, Queen E HS, Ron Southern, Sir John A Macdonald, Valley View.

23 CBE schools registered as EcoSchools in 2020-21. Of these, seven CBE schools achieved EcoSchools certification, at four different levels.

- Certified Level: Dr. J.K. Mulloy, Glamorgan
- Bronze level: Highwood
- Gold Level: Ron Southern
- Platinum Level: Collingwood, Crescent Heights, Robert Thirsk

See **Attachment III** for more details on the EcoSchools CBE Impact Report.

- *Target: The CBE takes a proactive approach to promoting a diverse, inclusive and welcoming culture that ensures the academic and social success of all students.*

CBE has several initiatives in place to cultivate environments that welcome everyone and provide opportunities to thrive in life and learning. These are outlined on the CBE website at the following location CBE Home>About Us>School Culture & Environment.

One initiative of note is CBE CARES. This initiative was introduced in June 2020 and advanced in the 2020-21 school year. This included hiring an external expert to facilitate meetings with an internal advisory council (including students and staff) and hosting listening sessions with parents/guardians and staff to hear their perspectives on racism, discrimination and other barriers to inclusion in our schools and workplaces. Members of the CBE Indigenous team also held one-on-one meetings with Elders to seek their guidance.

The most recent update to staff on CBE CARES was sent in November 2021. Highlights from that communication include:

- A “What We Heard” report that reflects the perspectives of the parents, caregivers, students, staff, community members, and Indigenous Elders who generously gave their time, shared their stories, and provided potential next steps for consideration by CBE
- A Fall progress report and a video conversation on the subject
- Next steps in the ongoing work of addressing issues of racism and discrimination at the CBE

### Employee Development Targets

- *Target: The CBE dedicates resources to sustainability coordination, incorporating sustainability into CBE policies and strategic plans, and developing action plans to move towards sustainability.*

A small team in CBE/FES/Facility Projects provides leadership to advance sustainability through strategic facility and community initiatives.

This team is focused on:

- Keeping the CBE accountable to the targets set out in the Sustainability Framework
- Strategic energy, water and waste management
- Design standards for infrastructure, maintenance, and renewal of existing buildings and owner requirements for new buildings, in support of sustainability targets

There are also individuals and teams across the CBE that are leading initiatives that support policies and action plans that move the organization towards sustainability.

Facility Operations recently achieved the Cleaning Industry Management Standards–Green Building (CIMS - GB) certification, which introduced the CBE Cleaning Quality Plan and Green Cleaning Policy that align to the sustainability framework.

Client Technology Services recently introduced the Managed Print Services Initiative. Some of the sustainability benefits of this initiative include reduced energy use associated with print devices by upgrading to newer, more energy efficient equipment, and eliminating abandoned/wasted printing with "Print Anywhere" functionality.

Sustainability is incorporated into CBE policies and strategic plans: Operational Expectations (OE) 9 and the Education plan under strategic resourcing.

### Operational Expectations 9

9.2 Ensure that facility planning and design decisions appropriately consider environmental impacts, including eco-efficiency and sustainability.

### CBE Education Plan

CBE optimizes available financial, people and physical resources in support of student and system success: operations and maintenance are aligned with funding consistent with environmental obligations.

- *Target: The CBE incorporates sustainability into their human resources programs, policies, staff training and development.*

Teachers have access to teacher professional learning through external partners to learn about sustainability education, climate education, land-based literacy and place-based education. These opportunities are posted on the Community Learning Opportunities page, the Link Online, as well as on external partner newsletters teachers subscribe to (EcoSchools EcoNotes, Alberta Council for Environmental Education (ACEE) newsletter, Mayor's Environment Expo Newsletter, to name a few). Teachers can also attend PD on topics related to sustainability at the Calgary Teachers Convention and attend internal training and professional development sessions created by our own staff that are listed on and registered through the internal Event Attendance Management System (EAMS).

FES/Facility Operations staff training includes components of energy management, waste management, supplies and resource management to help influence the economic and environmental sustainability of schools. This staff training was developed as part of a suite of videos and presentations hosted in Archibus, the Integrated Workplace Management System, for yearly review by facility operators. Facility operators also receive basic training in energy, waste and water management as part of their on-boarding process when starting their work at a new school.

### **Community Engagement Targets**

- *Target: The CBE gives back to its community through community service, engagement, and partnerships.*
- *Target: The CBE has formal and informal partnership(s) with the local community, including government agencies, non-profit organizations, or other entities, to work together to advance sustainability within the community.*

The CBE partners with several organizations to collaborate on sustainability programs and initiatives, as well as help deliver quality education programs to students. These partners include: Alberta Council for Environmental Education, EcoSchools Canada, Green Calgary, CAWST, CPAWS, Dreamrider Productions/Planet Protector Academy, various departments at The City of Calgary, Emerging Leaders of Solar Energy (ELSE), Bullfrog Power, Open Streets, and others.

The CBE attends and presents at various conferences/symposiums/webinars to share the progress our organization is making in achieving our sustainability goals.

The CBE presented at a webinar hosted by MCCAC in December 2020 on Solar for Schools. The CBE also presented at the Climate Symposium hosted by The City of Calgary in March 2021.

The CBE is a member of The City of Calgary Climate Panel, a diverse group of stakeholders that provide advice and guidance to The City on climate opportunities, risks, policy options and priorities. This is also an opportunity to collaborate on common sustainability initiatives to achieve greater collective action.

### **Building Design, Construction, Operations and Maintenance Targets**

- *Target: The CBE builds, operates and maintains its buildings in ways that protects the health of building occupants and the environment.*

In accordance with AR 1070, the CBE is committed to providing a safe and healthy workplace and learning environment for employees, students and others present at its work sites. Safety Advisory Services (SAS) establishes and maintains the occupational health and safety management system, enabling the identification, assessment and control of workplace hazards at the CBE.

The Indoor Environmental Quality (IEQ) team within SAS office works to ensure that safe and comfortable interior environments are provided in all CBE facilities by responding to all matters pertaining to IEQ concerns and providing general oversight and consult into conditions with potential to adversely affect IEQ.

The CBE is committed to our employees' Occupational Health and Safety (OH&S) as outlined in the Provincial OH&S Act. This is clearly demonstrated in our journey and achievement of Certificate of Recognition (COR) for the 17th year running.

CBE is a certified under the Cleaning Industry Management Standards–Green Building (CIMS - GB) designation, for its structured facility management system, operations, CBE Cleaning Quality Plan, and Green Cleaning Policy. In this way, the CBE ensures that staff, students and the public have access to efficient, safe, secure, clean, and attractive learning environments.

The CBE develops and supports programs that focus on the health and wellness of its occupants. For example, Comprehensive School Health focuses on healthy eating, healthy relationships, physical activity, and positive mental health.

AR 6031 outlines expectations for a safe and secure learning environment for staff and students.

Emergency Response guidelines are provided in AR 1029 - Operation of Schools; AR 1029.2 - Operation of Schools: Crises; and AR 8006.1 - Disposal of Hazardous Waste.

On May 11, 2006, the province made a commitment that new capital projects funded by the Government of Alberta will achieve (at least) a LEED Canada Silver Certification rating. The LEED rating system specifies minimum health, energy and environmental performance standards for the building during the design, build and initial operation of the building.

- *Target: All new construction and major renovation projects are, at a minimum, LEED Silver certified.*

All schools since 2006 have been designed and built to a minimum LEED Silver rating. Additionally, the OE-9 reasonable interpretation indicators state that 100 per cent of modernizations will be assessed using the LEED score card.

The CBE currently has 18 sites that are LEED Silver certified and 15 sites that are LEED Gold certified. Six CBE schools are in the process of receiving LEED designation.

- *Target: Greenhouse Gas (GHG) emissions are reduced by 12% by 2020 (from 2010-11 levels).*

The CBE Greenhouse Gas Emissions Inventory was updated for the 2018-19 and 2019-20 years, using the standards and principles defined in the International Organization for Standardization (ISO) 14064-1 standard and following the methodology established by the World Resource Institute's (WRI) Greenhouse

Gas Protocol. All Scope 1 and 2 emissions, and a portion of Scope 3 emissions were accounted for in the inventory.

When comparing actual emissions from the baseline (2010-11) to the 2019-20 school year, CBE’s greenhouse gas emissions have decreased by 6 per cent. However, adjustment of the inventories was required to make a reasonable comparison between the inventories, due to changes in emissions factors, the addition of scope three emissions sources and updates to calculations.

As such, the adjusted emissions are summarized as follows:

<b>2010-11 Emissions</b> (tonnes CO <sub>2</sub> e)	<b>2014-15 Emissions</b> (tonnes CO <sub>2</sub> e)	<b>2019-20 Emissions</b> (tonnes CO <sub>2</sub> e)	<b>Difference from Baseline to 2019-20</b>	<b>2018-19 Emissions</b> (tonnes CO <sub>2</sub> e)	<b>Difference from Baseline to 2018-19</b>
151,812	137,359	128,372	15.44%	148,996	1.89%

The above table shows a net reduction of 15 per cent in adjusted greenhouse gas emissions from 2010-11 to 2019-20. This exceeds the 12 per cent reduction target set in the Sustainability Framework.

In response to the COVID-19 global pandemic, the CBE shifted its operations in March 2020 to learning at home for students, and for staff to work remotely where possible. This impacted a number of emission sources within the inventory, possibly deflating some emission sources that would have been higher if the pandemic had not occurred.

As a result, the CBE GHG emissions were also calculated for the 2018-19 year. The above table shows a comparison of adjusted baseline emissions against the 2018-19 school year, which was not affected by COVID-19. There was a net reduction of almost 2 per cent in emissions, meaning that if 2018-19 was used for the inventory, the Sustainability Framework target would not have been met.

The detailed updated CBE GHG Emissions Inventory report is found in Attachment IV.

- *Target: The CBE manages and/or reduces energy consumption to the following energy utilization intensity targets, by 2020:*
  - 0.92 GJ/m<sup>2</sup> for elementary schools; and
  - 1.08 GJ/m<sup>2</sup> for middle/junior and senior high schools

The CBE has an energy management strategy that includes the following initiatives, to help manage and/or reduce energy consumption.

- utility data analysis
- IT power management (computer shut down)
- Benchmarking energy performance
- Energy standards for IMR/Capital retrofit projects

After analysing the energy utilization energy intensity for all schools for the 2019-20 year, 85 per cent of schools achieved their energy intensity target, with only 34 schools not meeting the target.

For elementary schools, the average energy intensity was 0.75 GJ/m<sup>2</sup>, with 29 schools not meeting the target of 0.92 GJ/m<sup>2</sup>. Of the schools that did not meet the target, the average energy intensity was 1.08 GJ/m<sup>2</sup>.

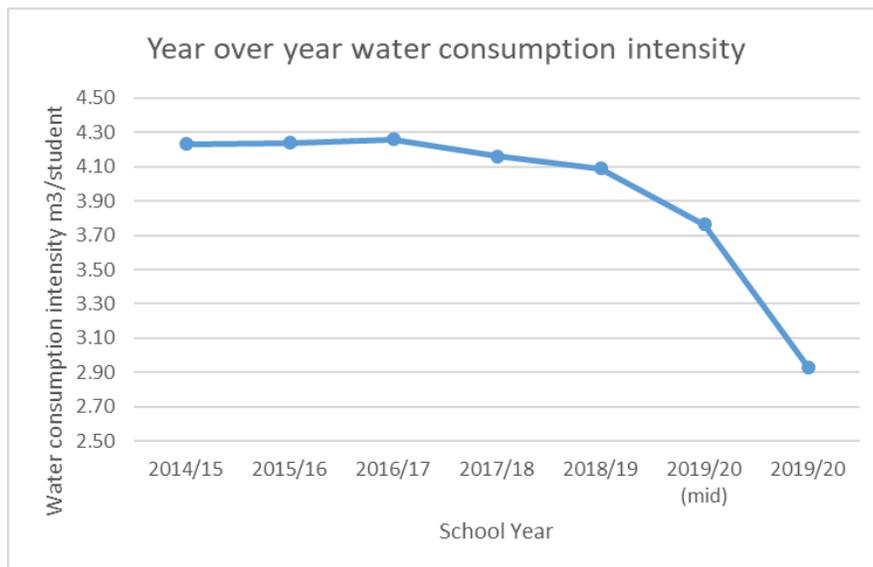
For middle/high schools, the average energy intensity was 0.68 GJ/m<sup>2</sup>, with only five schools not meeting the target. Of the schools that did not meet the target, the average intensity was 1.22 GJ/m<sup>2</sup>.

Most schools achieved the energy consumption targets, with the average for each school type being well below the targets, indicating that energy reduction initiatives are working as intended and energy consumption is decreasing in the CBE's schools.

- *Target: The CBE manages and/or reduces water consumption to 4m<sup>3</sup> per student per year, by 2020.*

The following graph represents year-over-year water consumption intensity at the CBE. The water consumption in 2014-15, the baseline year, is 4.23m<sup>3</sup> per student.

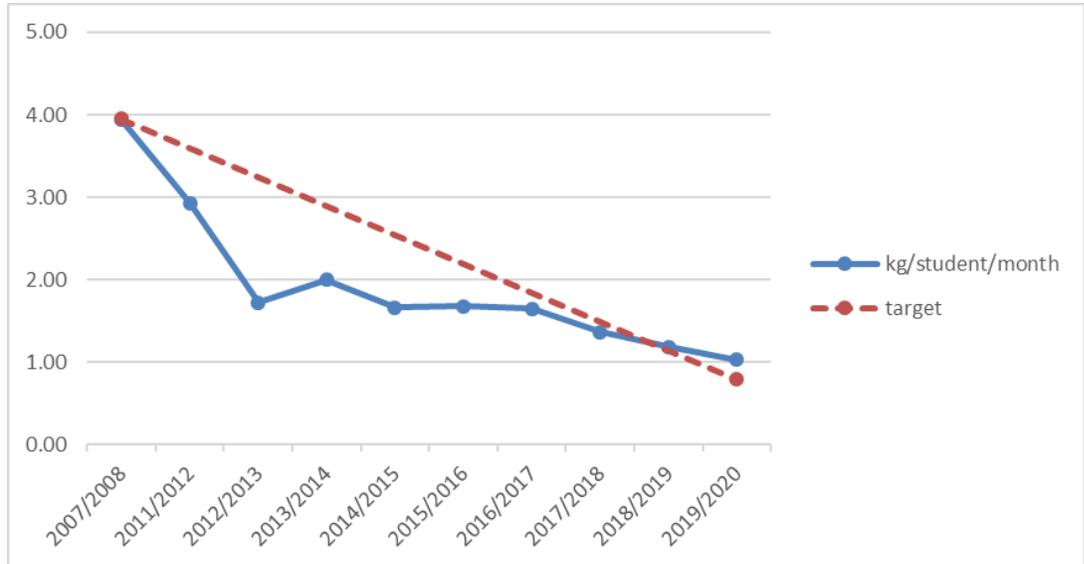
During the 2019-2020 school year, the CBE was on track to exceed the water consumption target of 4m<sup>3</sup> per student. In fact, the mid-year value (assessed in February 2020) equated to 3.8m<sup>3</sup> per student for the year. However, because of the cancellation of in-person classes in March 2020 due to COVID-19, water consumption decreased considerably, such that the average water consumption was 3m<sup>3</sup> per student.



There are facilities-based initiatives that contribute to decreased water use in schools. In the case of new schools, this is done by ensuring that water use is considered during design and construction. In the case of existing schools, all school maintenance and preventative maintenance projects are reviewed to incorporate water saving measures where feasible and possible.

- *Target: The CBE reduces waste going to landfill by 80% by 2020 (from 2007-08 levels).*

In 2019-20, the CBE's average waste generation by weight is 1.04 kg per student, per month. This is a reduction of 74 per cent from 2007-08 levels, by weight. Waste generation includes all waste destined for landfill. The following graph shows waste reduction by weight:



Note that at the end of 2020, the waste generation was further reduced to 0.912 kg/student/month or 78 per cent.

- *Target: CBE schools reduce their dependency on fossil fuels through the incorporation of photovoltaic systems on schools.*

By the end of the 2021-22 school year, the CBE will have a total of 31 schools with solar panels. The following table shows current and anticipated solar generation as well as solar generation as a percentage of current total electricity consumption.

	2018-19	2019-20	2020-21	2021-22
solar generation (kWh/yr)	303,050	303,050	1,313,600	2,778,500
% of total consumption	0.4%	0.5%	2%	4%

### **Purchasing**

- *Target: The CBE chooses environmentally and socially preferable products and services and supports companies with strong commitments to sustainability.*

The CBE considers social and environmental impacts in specific product and service selections and agreements. A few examples include:

- Office paper products are FSC certified and contain at least 30 per cent and up to 100 per cent recycled content
- New school equipment use regional materials and/or manufacturing where possible
- When technology infrastructure and equipment are selected for procurement, consideration is given to the impact on the environment through power consumption, waste produced, disposal of packaging material in a sustainable fashion, and what happens to the product after its useful life in CBE. These considerations are laid out in the tender documents and are considered as part of the evaluation criteria.

### **Transportation**

- *Target: The CBE works to reduce its dependency on petroleum-based fuels for transportation.*

The CBE has not reduced its dependency on petroleum based fuels for transportation, but has reduced its use of petroleum-based fuels by introducing initiatives that make fleets more efficient:

- Fleet Idle-Free Policy Implemented
- GPS tracking of CBE fleet vehicles for efficiency purposes
- Transportation Services use of Bus Planner and GPS data to plan efficient school bus routes
- Student Transportation uses: alternative fuels – more propane units, idling controls, paperless processes, parking locations throughout city to minimize deadhead (bus travelling empty to and from parking location), internal recycling programs including battery and fluids, newer fleet

The CBE has also done work promoting active transportation and safe routes to school.

### **Next Steps**

The CBE had made good progress in achieving the sustainability targets set for 2020.

After gathering all the data and measuring progress through qualitative observations and quantitative data analysis, it was time to review, reflect and check with our community to receive feedback on our progress, and input on what work we still need to do to be a leader in sustainable practices and behaviours.

An initial draft of the CBE Sustainability Framework 2030 was developed, incorporating lessons learned from the 2020 targets and in alignment with current local and global targets and initiatives.

### **Sustainability Framework 2030 Engagement**

On November 22, 2021, the CBE launched an online survey and Idea Boards to gather feedback to help refine the draft CBE Sustainability Framework 2030.

This engagement opportunity was widely shared and promoted. Announcements and links were posted on the internal (Insite) and external CBE website banner stories, Link Online, leadership dashboard and The Week Ahead. The opportunity was promoted on CBE's social media channels and a toolkit was developed to help schools promote the opportunity to their staff and students. The opportunity was announced during in-person presentations at leadership meetings, and shared through targeted emails. One on one meetings with senior leadership were also held and a virtual engagement session workshop was conducted to share the engagement opportunity and gather ideas for the Idea Boards.

The survey and idea boards were open for three weeks. A total of 179 survey responses were received and 51 ideas were posted to the Idea Boards. While this is a small sample of the large population that was canvassed and invited to share their ideas, there are a few observations that can be made from the results:

- Progress has been achieved in some areas, but more work needs to be done. The areas that were highlighted as needing more attention are:
  - increased development of outdoor learning and garden spaces;
  - increased development of on site energy generation and connecting that to student learning;
  - staff/student sustainable transportation; and
  - a common understanding of sustainability.
- All the feedback and ideas received helped inform and are in line with the draft framework and 2030 targets proposed.
- Emphasis needs to be made on education (adults, students and community) and messaging to bring people along.

For the full Sustainability Engagement plan and results, see the following link: <https://sustainability.cbdialogue.com/en/projects/cbe-sustainability-framework-2030>

The priority for developing an ecologically aware, socially just, and economically responsible society has not diminished. In fact, in the face of current global environmental challenges, including climate change, loss of biodiversity, pollution and resource depletion, it is more important than ever to continue a path of learning, planning and action in support of a sustainable future.

The CBE Sustainability Framework 2030 is found at Attachment V. The new targets for 2030 are written to align with current municipal, provincial and federal targets, and are in alignment with current community initiatives and in consideration of feedback received from the Sustainability Engagement.

Once the CBE Sustainability Framework 2030 is shared with the Board, it will be shared with CBE staff and publicly. CBE staff will see an article and link on Insite, and the public will see the report posted on the CBE Sustainability page.

## 5 | Financial Impact

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In addition to the need to care for local and global environmental and social systems, there are also financial benefits to striving for sustainability targets.

Financial benefits and cumulative savings of approximately \$2,507,000 have been achieved through continued implementation of energy management projects, energy retrofits, renewable energy installations, water reduction and waste reduction and diversion strategies. These savings can be broken down in the following way:

- cost avoidance due to reduced waste being picked up over the last 6 years;
- energy savings from energy retrofits and energy management initiatives over the last 3 years;
- energy savings from implementation of solar generation projects; and
- water savings from water reduction initiatives.

These savings and avoided costs will continue to be realized into the future as we continue to reduce energy and water consumption, and follow the 3Rs hierarchy – Reduce, Reuse and Recycle.

Striving for sustainability targets also fosters holistic thinking about operations. Assessing the total cost of materials, equipment and infrastructure and investing in higher quality and less impactful products can reduce operating costs, extend product service life, and reduce waste costs.

## 6 | Implementation Consequences

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The CBE is the largest public school board in western Canada and the second largest land and facility owner in Calgary. Climate change has implications for our staff, students, and community now and in the future.

We need to adapt our staff, students and buildings now by increasing knowledge and implementing processes, designs, and actions to reduce the impact of extreme weather events and climatic changes.

We need to prepare our staff, students, and buildings for the future by increasing knowledge and implementing processes, designs and actions that reduce greenhouse gas emissions to help limit global climate change.

## 7 | Conclusion

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The CBE has made good progress towards achieving the 2020 targets. While all targets were not achieved, there was progress made towards each one, progress that the CBE can build upon with targets for 2030 and in so doing be an active participant in helping society move towards a sustainable future.



CHRISTOPHER USIH  
CHIEF SUPERINTENDENT OF SCHOOLS

## ATTACHMENTS

- Attachment I: CBE Sustainability Framework
- Attachment II: 2019 Mayors Expo EcoLeaders Spotlight
- Attachment III: EcoSchools CBE Impact Report 2020-2021
- Attachment IV: CBE GHG Inventory Quantification Report
- Attachment V: CBE Sustainability Framework 2030

## GLOSSARY – Developed by the Board of Trustees

Board: Board of Trustees

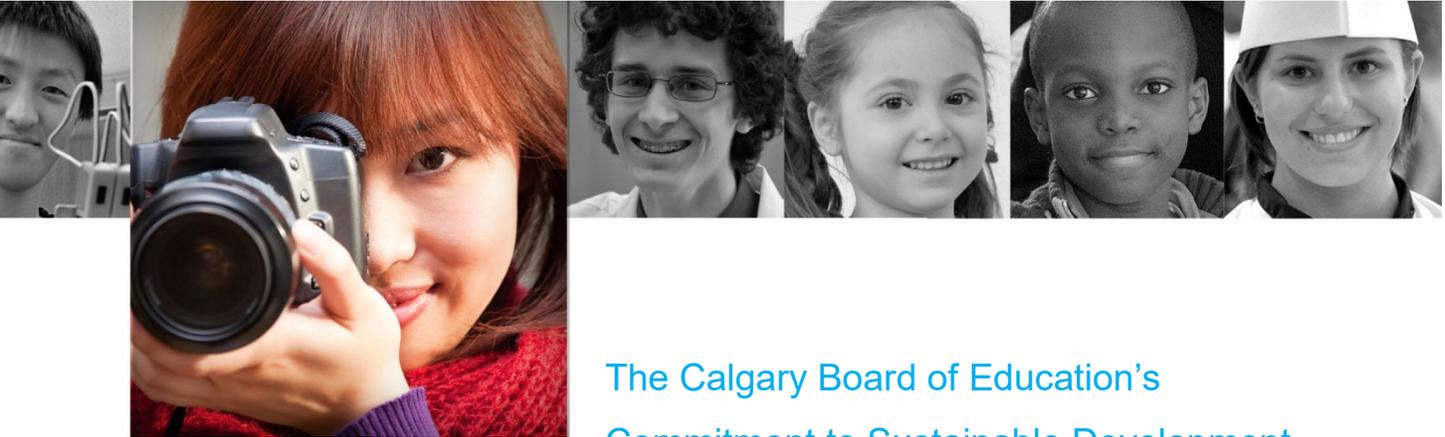
Governance Culture: The Board defined its own work and how it will be carried out. These policies clearly state the expectations the Board has for individual and collective behaviour.

Board/Chief Superintendent Relationship: The Board defined in policy how authority is delegated to its only point of connection – the Chief Superintendent – and how the Chief Superintendent’s performance will be evaluated.

Operational Expectations: These policies define both the nonnegotiable expectations and the clear boundaries within which the Chief Superintendent and staff must operate. They articulate the actions and decisions the Board would find either absolutely necessary or totally unacceptable.

Results: These are our statements of outcomes for each student in our district. The Results policies become the Chief Superintendent’s and the organization’s performance targets and form the basis for judging organization and Chief Superintendent performance

# Sustainability Framework



The Calgary Board of Education's  
Commitment to Sustainable Development

## Revision Table

Revision	Date	Revision description
1	June 23 2014	Initial Issue
2	Sept 27 2018	Update staff, p3 Update Mission, p4 Update Executive Summary, p4 Update Objectives, p10 Update Targets, p11-12

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# Executive Summary

The Sustainability Framework is guided by CBE's Mission, Vision and Values

## Mission

Each student, in keeping with their individual abilities and gifts, will complete high school with a foundation of learning necessary to thrive in life, work and continued learning.

## Values

Students come first. Learning is our central purpose.

Public Education serves the common good.

The Calgary Board of Education (CBE) has a considerable legacy of leadership and success in environmental education and energy management on both an individual school level and at a system level.

In May 2007, two documents, the "Framework for Advancing Environmental Stewardship within the Calgary Board of Education" and the "5 Year Implementation Plan" were published and approved by the Board to guide the CBE's work towards becoming a model of local and global environmental stewardship. For the past 6 years, CBE staff and students have demonstrated significant commitment to this work, and we have achieved many of the outcomes and initiatives set out in the Framework and Implementation Plan.

It was time to review, reflect and check with our community on what being a model of local and global environmental stewardship means to our community, and what work do we still need to do to achieve our goal.

In the winter of 2013, through a series of engagement sessions and questions, it quickly became apparent that focusing on environmental stewardship was no longer sufficient if our organization was to contribute to a sustainable future. Environmental Stewardship is just one aspect of the "three legged stool" that is sustainability. The social, economic, and environmental components each represent one of the stool's legs. If one of the legs is missing, the sustainability stool cannot balance or function.

This document describes a revised strategic framework that enables the CBE to become a leader in sustainability planning, action and education.

## Goal

The Calgary Board of Education will

- advance student achievement with opportunities to acquire attitudes, skills, and knowledge to contribute to a socially, environmentally and economically sustainable society;  
and
- be a leader in sustainable practices and behaviours

# Understanding Sustainability

One of the most popular definitions of sustainability is actually a definition of sustainable development. It is from Our Common Future: The Report of the World Commission on Environment and Development, commonly known as the Brundtland Commission Report:

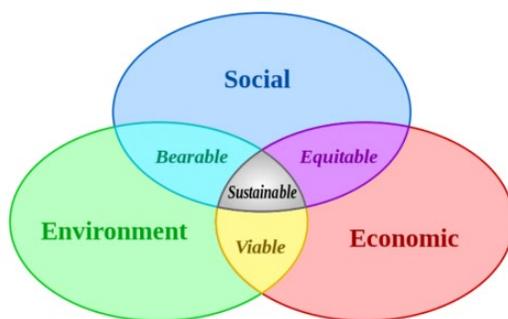
1. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

2. Thus the goals of economic and social development must be defined in terms of sustainability in all countries [...]

3. [...] Physical sustainability cannot be secured unless development policies pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits. Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation.

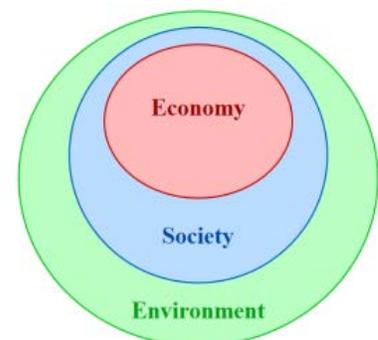
Today most uses of and references to sustainability emphasize the concept's simultaneous economic, environmental, and social dimensions. For example, businesses talk about the triple bottom line: people, planet, and profits (or, alternately, human capital, natural capital, and financial capital). Likewise, sustainability educators commonly refer to the Three E's of sustainability: economy, ecology, and equity.



Popular representations of sustainability also underscore the concept's three dimensions. A common illustration of sustainability is the diagram at left depicting three overlapping circles representing environmental needs, economic needs, and social needs. The area where the circles overlap, and all three needs are met, is the area of sustainability.

Another popular representation is the diagram at right in which sustainability is depicted as three concentric circles to further emphasize the interdependence of the three dimensions - the economic existing within the social/cultural, and both existing within the environment.

Sustainability, and sustainable development, is about developing an ecologically aware, socially just, and economically responsible society.



# Sustainability and the CBE

K-12 school districts play an important role in shaping the path to a healthy, just and sustainable future through preparing students to take their place as lifelong learners and citizens who make a significant contribution within a complex, changing world.

The CBE has a responsibility to its students; what they are taught, how they are taught and the physical environment in which they learn all shape their ability to provide answers to the complex political, technological, and sociological challenges of reaching a just and sustainable future<sup>1</sup>.

The CBE has a responsibility to its community; on June 20, 2006, the Board of Trustees agreed that the Calgary Board of Education would become an imagineCALGARY partner. In so doing, the Board of Trustees committed the Calgary Board of Education to work together with other community partners toward the social, economic and environmental sustainability goals set out in the imagineCalgary Plan.

The CBE has a responsibility to the province; in April 2010, the Alberta Ministry of Education published *Inspiring Education*, a vision and high-level direction for education to 2030. The vision for the education system is to instill the following qualities and abilities in our youth: engaged thinker, ethical citizen and entrepreneurial spirit. These are all qualities and abilities required of current and future citizens to address the complex challenges of reaching a healthy, just and sustainable future.

By embracing the values of opportunity, fairness, citizenship, choice, diversity and excellence in every decision related to curriculum, teaching assessment, policy and governance, the CBE can be a leader in preparing its students to thrive in life, work and continued learning while contributing to the quality, well-being and sustainability of society and the environment.

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<sup>1</sup> from *University of Calgary Sustainability Plan*

## What the Community Said

In the fall of 2013, the EcoTeam began the process of reviewing the CBE's current Environmental Stewardship Framework and Implementation Plan, summarizing successes and deciding on the new Environmental Stewardship direction. As part of this process, a community engagement strategy was designed and implemented, to receive input and feedback from the CBE community, external partners and stakeholders, on what environmental stewardship means and what future priorities should be.

Here are some of the high-level themes and priorities that emerged:

- ✓ Sustainability starts at the top and is integrated into board policy and regulation
  - Alignment with external accords/agreements/initiatives
  - CBE makes sustainable financial decisions
  - Student leadership is supported, promoted and recognized
  - Sustainability is integrated into policies, plans, and training
  - Shared accountability across the organization
  - Plans, programs and actions are properly resourced
- ✓ Focus on 'living local'
  - Develop naturalization areas and gardens at every school
  - Work on achieving zero waste by following the 3Rs (reduce, reuse, recycle)
  - Staff and students will learn about, develop and support local food programs
  - schools generate their own energy and learn about it
- ✓ Evaluate mobility strategies and options
  - Reduce staff/student driving/busing by exploring alternative transportation, work and learning options
- ✓ Built environment protects the health of the building occupants and environment
  - Sustainable construction and maintenance
  - Attractive, useable spaces
- ✓ Communications are clear and widespread, using a variety of methods
  - A common understanding of sustainability is achieved
  - Awards, recognition and incentives are used to support and promote programs
- ✓ Curriculum design includes global citizenship, environmental learning, integrated inquiry learning and outdoor experiences
- ✓ Schools are hubs of community learning, interaction, leadership, innovation and best practice
  - Engage parent community and corporate partners
  - Staff and students have a connection to community and the outdoors

The feedback from the engagement sessions was used to inform the CBE Sustainability Framework.

# Guiding Principles

The following guiding principles will provide the foundation for sustainability initiatives:

- **Sustainability literacy** - The definition of sustainability is universally understood.
- **Advance Student Achievement** - Personalization of learning is a key strategy used in designing and implementing initiatives.
- **Collaboration** - Foster early and ongoing connection between curriculum, facility and community to find synergies, leverage resources and draw on diverse expertise when designing and implementing initiatives.
- **Strategic and sustainable** - Initiatives, based on research and the best available information, will be comprehensive, coordinated and reflect system perspectives.
- **Measurable outcomes** - Initiatives will have clear measurable outcomes that reflect social, economic and environmental perspectives.
- **Inclusive and transparent** - Decisions and interactions will be predicated on collaboration with networks and partnerships with internal and external organizations.
- **Coaching** - Initiatives will support and empower leaders to leave a legacy of individuals and structures that are capable of facilitating meaningful change.
- **Celebrate success** - Effective initiatives and progress that support sustainability will be recognized and celebrated.
- **Natural world experiences** - Quality education experiences in the natural world will develop ecological respect, thus promoting the development of a balanced lifestyle and stewardship of the environment.
- **Community Engagement** - As an educational leader, the CBE recognizes its responsibility to educate and share its resources and success with other interested organizations, relevant external agencies and the general public.
- **Aligned and consistent** - Initiatives are consistent with the core values of the CBE and the Province of Alberta as defined in the Results policies.
- **Acknowledge and build on the CBE's legacy** and instil a new standard of best practice regarding a future legacy of sustainability and stewardship.

# Objectives

The Sustainability Framework is aligned with the Results policies, the Three-Year Education Plan and Alberta Education's vision for *Inspiring Education*. All of these documents guide our work and connects each CBE employee to our Results Policies and our desired outcome of student success.

The following four objectives will create an environment in which each student has the opportunity to become an engaged thinker, an ethical citizen with an entrepreneurial spirit, who is prepared for success in life, work and future learning,

**Student Achievement:** Students are ethical citizens who contribute to the quality, well-being and sustainability of society and the environment

**Employee Development:** Professional development activities advance environmental stewardship, social justice, economic responsibility and student learning.

**Community Engagement:** Internal and external communities inform and support the CBE's Sustainability Framework.

**Manage Resources Wisely:** Sustainability practices influence decisions and actions of service units and in the classroom.

# 2020 Targets

The Sustainability Framework provides a set of milestones for the year 2020.

## Student Achievement

- Instructional design and leadership supports sustainability as a focus of inquiry related to all core subject areas that engages students as sustainability leaders.
- The CBE takes a proactive approach to promoting a diverse, inclusive and welcoming culture that ensures the academic and social success of all students.

## Employee Development

- The CBE dedicates resources to sustainability coordination, incorporating sustainability into CBE policies and strategic plans, and developing action plans to move towards sustainability.
- The CBE incorporates sustainability into their human resources programs, policies, staff training and development.

## Community Engagement

- The CBE gives back to its community through community service, engagement, and partnerships.
- The CBE has formal and informal partnership(s) with the local community, including government agencies, non-profit organizations, or other entities, to work together to advance sustainability within the community.

## Manage Resources Wisely

### *Building Design, Construction, Operations and Maintenance*

- The CBE builds, operates and maintains its buildings in ways that protects the health of building occupants and the environment.
- All new construction and major renovation projects are, at a minimum, LEED Silver certified.
- GHG emissions are reduced by 12% by 2020 (from 2010/11 levels).
- The CBE manages and/or reduces energy consumption to the following energy utilization intensity targets, by 2020:
  - 0.92 GJ/m<sup>2</sup> for elementary schools; and
  - 1.08 GJ/m<sup>2</sup> for middle/junior and senior high schools
- The CBE manages and/or reduces water consumption to 4m<sup>3</sup> per student per year, by 2020.
- The CBE reduces waste going to landfill by 80% by 2020 (from 2007/08 levels).
- CBE schools reduce their dependency on fossil fuels through the incorporation of photovoltaic systems on schools.

### *Purchasing*

- The CBE chooses environmentally and socially preferable products and services and supports companies with strong commitments to sustainability.

### *Transportation*

- The CBE works to reduce its dependency on petroleum-based fuels for transportation.

## The Road Ahead

The Calgary Board of Education has many programs, policies and actions already in place in support of sustainable development.

What is needed now is a formal system commitment, policy and plan that supports, coordinates and reports on all the work being done and all the work that still must be done to achieve a sustainable future.

By embracing the values of opportunity, fairness, citizenship, choice, diversity and excellence in every decision related to curriculum, teaching assessment, policy, governance, building operations and community engagement, the CBE can be a leader in preparing its staff and students to thrive in life, work and continued learning while contributing to the quality, well-being and sustainability of society and the environment.

## 2019 Mayor's Expo and Eco-Leaders Program

The 2019 Mayor's Environment Expo took place from June 4-6, 2019, in conjunction with National Environment Week. The Expo fosters environmental behaviour change through educational and interactive exhibits and workshops aimed at youth. It ensures we have well-educated environmental stewards that practice and promote environmental sustainability. In 2019, an estimated 4,000 students and teachers attended the Expo.

Through the City of Calgary's EcoLeaders program, student teams are challenged to identify an environmental problem and contribute to a solution that positively impacts their community. By engaging in these curriculum-linked projects, students build their leadership, eco-literacy and commitment to environmental sustainability. This year, 24 CBE schools from K-12, addressed issues related to waste, water and energy, as well raising awareness about our natural world.

The journey for these schools began in early September as students researched various environmental issues. Through the assistance of their teachers, they applied to the Eco-Leaders program. In January, at a local conference, students had the opportunity to connect to various experts in the field to further build their eco-literacy and refine their project ideas. After this inspiring conference, subject matter experts visited the schools to assist students in implementing their ideas. The Eco-Leaders then displayed their work at the Mayor's Environment Expo, sharing their journey, learnings and solutions.

Some amazing projects included:

### Belvedere Parkway "If We Build It, Will They Come"

In order to attract local solitary bees and other pollinators to their local environment, these students expanded their existing school vegetable garden by planting local, native wildflower garden with 'bee loving' plants and installed solitary bee homes. Their work has led to their school being the first [Bee City School](#) in Calgary.

### Braeside "The Waste Busters"

To create a self-sustaining recycling and composting culture, students installed more recycling & compost stations in their school as well as educated their student body on how to recycle and compost effectively and why it is important.

### Hillhurst "#SaveTheBurrowingOwls"

Students began an awareness campaign for Burrowing Owls to share their importance to our local ecosystem. By educating the community, students are working to build an understanding that will lead to the protection of the small, long-legged owl from habitat loss and ensure a stronger ecosystem around Calgary.

### Arbour Lake "Tap vs. Bottle"

Students aimed to reduce the number of single use plastic water bottles in their school and educate the school about the issue. Through comparing plastic bottled water and tap water data, creating a petition to stop selling plastic water bottles in school, conducting student surveys, proving water taste tests and educational materials, students are achieving their project goals.

### Sherwood “Experiential Outdoor Education and Stewardship”

To increase a school culture of sustainability students developed educational outreach materials, conducted a community clean up, installed a water bottle filling station and took outdoor place-based educational trips. These initiatives were able to increase student and school awareness of environmental issues and encourage outdoor activities.

### Queen Elizabeth “Gardening with Native Plants for Water Sustainability”

Students continued their work on a multi-year project to build sustainable urban gardens to help educate their community on simple ways to reduce our impact on our watershed. Students applied their research and built an experimental model garden that highlights how sustainable plants can reduce water, fertilizer, and pesticide/herbicide use in urban gardens.

# 2020-2021 EcoSchools Canada Impact Report

## 101

School boards  
and districts

## 9

Provinces and  
territories

## 500,000

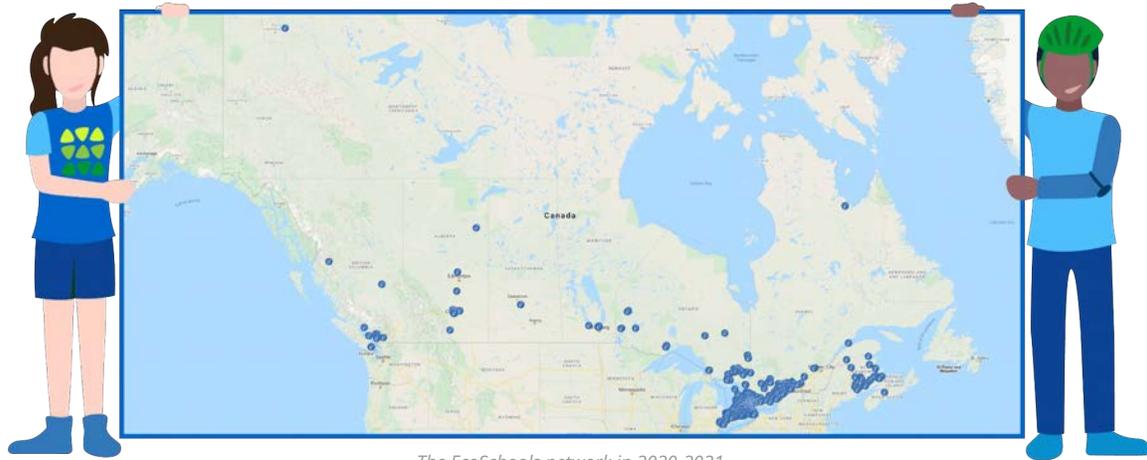
Students  
reached

## 1,219

Schools  
reached

## Hello Canada!

This year, we officially launched the EcoSchools program across the country. Despite the challenges that schools and communities faced amidst the global pandemic, we were heartened to see many schools, both new and old, engage in environmental learning and climate action. In fact, this year, we welcomed **215 new schools** to the EcoSchools community from **6 new provinces and territories** including new school districts in New Brunswick, Alberta, British Columbia, Quebec, Saskatchewan, Manitoba, Nova Scotia, and the Northwest Territories!



The EcoSchools network in 2020-2021

## Our Collective Impact

This year we were amazed by the innovation and commitment of our schools in adapting actions; we saw increased opportunities for outdoor learning, online events and campaigns, and many actions taking place at home and in the community.

### One Million + hours

of outdoor learning  
took place



That's over  
**100 years!**

### 499 Schools Participated

in Earth Day this year



all across Canada -  
**from Vancouver  
to Saint John!**

### 9,000 Actions Completed

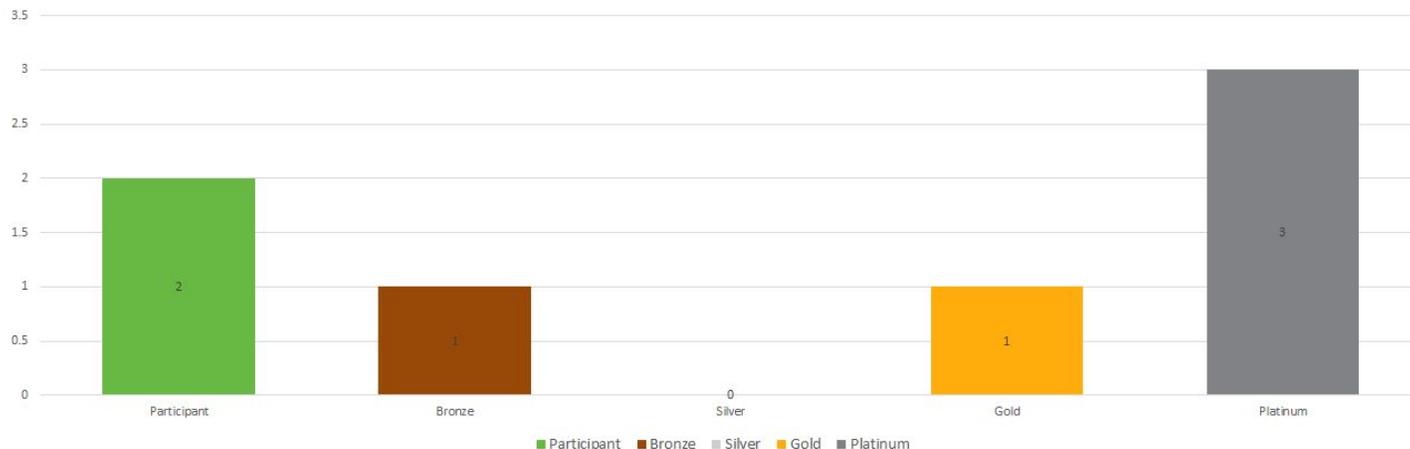
for this year



Each action is connected  
to promoting the  
**UN's SDGs,**  
and lead to a reduction  
in GHGs.



## Certification Highlights



*Congratulations! Your board has 5 certified EcoSchools this year. This includes 3 Platinum, 1 Gold, 1 Bronze schools; your board also has 2 Participants (Green)*

## Your Board's Impact



**23 new schools** registered this year



**79 actions** were completed by schools in your board



**3129 hours** of outdoor learning took place



**582 trees** were planted this year

## Your Board is supporting the UN's SDGs



**SDG 13**  
Climate Action

**4 schools** regularly explore issues of environment, equity, and social justice during class instruction.



**SDG 12**  
Responsible Consumption and Production

**86% of schools** monitor and divert waste.



**SDG 7**  
Affordable and Clean Energy



**57% of schools** track and reduce energy use.

**SDG 11**  
Sustainable Cities and Communities



**248 students** were encouraged to walk, cycle or roll to school this year.



## Here were the Top 10 actions taking place in schools in your Board

Certifying with EcoSchools this year was a new challenge for schools. In reviewing your Top 10 Actions for 2020-2021, it tells a story of resourcefulness and creativity in a time of limitations.

- |                                    |   |   |
|------------------------------------|---|---|
| <b>1</b> Earth Day                 | <b>5</b> GOOS Paper                       | <b>9</b> Pollinator Garden                    |
| <b>2</b> School Energy Exploration | <b>6</b> Grow a Food Garden               | <b>10</b> Supporting Canadian Species at Risk |
| <b>3</b> Waste-free Lunch          | <b>7</b> Indoor Gardening and Greenhouses |   |
| <b>4</b> Build Homes for Wildlife  | <b>8</b> Sort Your Waste                  |   |



## What's happening at an EcoSchool near you?

**Pollinator Garden**  
A local nursery provided seeds and soil to help a school grow a variety of native species, perfect for pollinators!

**Waste Reduction and Management**  
A school in Montréal researched PPE related waste management practices, along with other waste reduction and sorting initiatives.

**Take Me Outside Day**  
EcoSchools in British Columbia are getting outdoors to examine creeks, hike nearby trails, and identify native species.

**Grow a Food Garden**  
Over 70% of participating New Brunswick schools planted or maintained a food garden this year!

**Tree Planting and Maintenance**  
Local organizations and school board partnerships are supporting EcoSchools to plant trees.

**The Great Gulp**  
Schools take a synchronized 'gulp' of tap water to raise awareness about drinking water and the importance of reducing single-use plastic waste.

**Young Reporters for the Environment**  
Many EcoSchools participated in the Young Reporters for the Environment competition, reporting on issues such as pollution, climate change and biodiversity loss.

## Areas of Improvement

Great job this year! Your board engaged so many young environmental leaders. Moving forward, here are the three ways that we think your board could set goals to improve:

1. Data from your board indicates that there is opportunity for greater impact by promoting actions related to the following Sustainable Development Goals: SDG 17: Partnerships for the Goals (WWF Earth Hour, WWF National Sweater Day) and SDG 3 - Good Health and Well-Being (Walk and Roll to School Day, Environmental Health).
2. Schools are most successful in the EcoSchools program when they experience support and encouragement from their communities. As their board, continue developing supportive strategies such as delivering professional development opportunities, funding projects, providing incentives for participation, and publicly celebrating achievements throughout the year!
3. Continue supporting schools to adapt their EcoSchools actions to outdoor, at-home, and online learning by investing in equipment for outdoor field studies, providing professional development in outdoor education, and promoting EcoSchools programs in community communications (newsletters, website, etc).

To register your school, visit

[app.ecoschools.ca](https://app.ecoschools.ca)

To learn more about what we can offer you, visit

[ecoschools.ca](https://ecoschools.ca)

To get in touch with a question, email us at

[info@ecoschools.ca](mailto:info@ecoschools.ca)



# Calgary Board of Education

2019/2020 Greenhouse Gas Emissions Inventory

## Final Report

May 14, 2021



*“The Calgary Board of Education will advance student achievement with opportunities to acquire attitudes, skills, and knowledge to contribute to a socially, environmentally and economically sustainable society; and be a leader in sustainable practices and behaviours”*

CBE 2014 Sustainability Framework

# Executive Summary

The Calgary Board of Education (CBE) published a Sustainability Framework in 2014 that was subsequently updated in 2018 outlining a number of sustainability targets for 2020. These targets include reducing greenhouse gas emissions by 12% from a baseline, meeting energy consumption targets based on school type, and reducing water consumption per student. The baseline greenhouse gas inventory was developed using the 2010/11 school year, and an update to the inventory, to monitor progress, was completed in 2014/15. The purpose of this report is to update the CBE's greenhouse gas inventory for the 2019/20 school year to determine if the targets set in the Sustainability Framework were achieved.

Building emissions from natural gas and electricity were normalized against student population and floor area; and in both cases, the emissions intensity decreased by 16%, illustrating that CBE building emissions are decreasing at an individual school level. Emissions from building operations were also grouped by building age to determine if a correlation existed between emissions and building age. The data illustrated that while there are some apparent reductions in emissions for newer schools, there is not a strong relationship between building age and emissions.

The 2019/20 greenhouse gas inventory included five additional Scope 3 emission sources that had not previously been included in the baseline or 2014/15 inventories. The baseline and 2014/15 inventories were adjusted for the five additional Scope 3 emission sources in order to provide a consistent comparison against the 2019/20 inventory. This analysis revealed that the CBE's emissions have decreased by 15% since the 2010/11 baseline year, exceeding the target set in the Sustainability Framework.

During the 2019/20 school year, the World Health Organization (WHO) declared COVID-19 a global pandemic and many of CBE's 'typical' operations were halted. The CBE shifted its operations in March 2020 to enable students and some staff to work remotely for the remainder of the school year. To understand the effects of COVID-19 on the GHG inventory, the adjusted baseline emissions inventory was compared to the emissions inventory from the 2018/19 school year (which was unaffected by COVID-19). The results showed only a 2% reduction in emissions from the 2010/11 baseline to the 2018/19 school year, meaning that the Sustainability Framework target would not have been met using the 2018/19 year as the target year. COVID-19 impacted a handful of emission sources, but the most

significant impact was on third-party bus fleet emissions as students were not transported to and from their schools for the last few months of the school year.

The CBE had also set energy conservation targets of less than 0.92 GJ/m<sup>2</sup> for elementary schools and less than 1.08 GJ/m<sup>2</sup> for middle and senior high schools. 85% of CBE schools achieved their target, with the average energy intensity for each school type falling well below the targets. Furthermore, total electricity consumption decreased despite building 22 new schools. This indicates that energy conservation initiatives are working as intended and energy consumption is decreasing for CBE schools. However, natural gas consumption has not decreased by the same amount as electricity. The CBE should continue to focus its efforts on reducing natural gas consumption within schools and buildings.

Although a comparison of the CBE's 2019/20 emissions to the baseline indicates that the CBE achieved the Sustainability Framework target of reducing emissions by 12% from the baseline, the target would not have been achieved using a normal operational school year such as 2018/19. This affirms that there are many steps the CBE should take to continue to decrease emissions, especially as the organization continues to grow. Of the emission sources contributing to the CBE's GHG inventory, natural gas, electricity and third-party bus emissions account for over 85% of the inventory and there are opportunities to focus future efforts on reducing those emission sources.

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# Glossary of Terms and Acronyms

Table 1: Glossary of Terms and Acronyms

Term or Acronym	Definition
Activity data	Activity data is an input for the calculation of GHG emissions and refers to the data associated with an activity that generates emissions, such as litres of gasoline consumed from fleet vehicles. This activity data is collected in physical units (litres) or energy units (Gigajoules or GJ) and then combined with an emission factor and the relevant GHG global warming potential value to calculate emissions in units of tonnes of carbon dioxide equivalent (CO <sub>2</sub> e).
Actual Emissions	Actual emissions refer to the emissions inventory completed for 2010/11 and 2014/15 school years. These emissions do not include any adjustments for additional Scope 3 sources that were included in the 2019/20 inventory.
Adjusted Emissions	Adjusted emissions refer to the emissions from 2010/11 and 2014/15 that have been adjusted for additional Scope 3 sources and emission factors. This has been completed to allow for a clear comparison from the baseline and 2019/20 inventory emissions.
Carbon dioxide-equivalent (CO <sub>2</sub> e)	The universal unit of measurement to indicate the global warming potential of each greenhouse gas, expressed in terms of one unit of carbon dioxide. Expressing all GHGs in terms of tonnes of CO <sub>2</sub> e allows the different gases to be aggregated.
CBE	Calgary Board of Education
CH <sub>4</sub>	Molecular formula for methane
CO <sub>2</sub>	Molecular formula for carbon dioxide
Emission factor	A factor that allows greenhouse gas emissions to be calculated from available activity data.

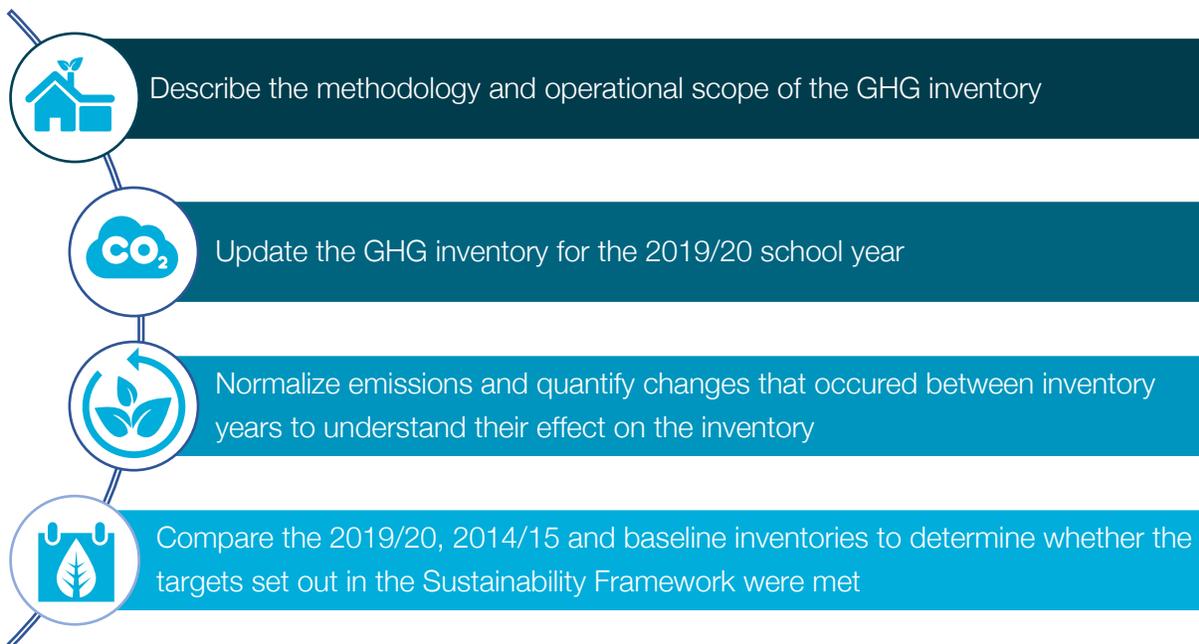
Term or Acronym	Definition
GHG	Greenhouse Gas, a generic term for gases that trap heat near the earth’s surface, slowing its escape from the atmosphere. These include carbon dioxide (CO <sub>2</sub> ), Methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), sulfur hexafluoride (SF <sub>6</sub> ), perfluorocarbons (PFCs), among others.
GWP	Global Warming Potential, a factor unique to each GHG used to determine the impact of the GHG on the climate.
N <sub>2</sub> O	Molecular formula for nitrous oxide
Scope 1 (Direct) GHG Emissions	Emissions directly from sources that are owned or are within operational control of the reporting entity, such as natural gas use in a building owned or controlled by the reporting entity.
Scope 2 (Indirect) GHG Emissions	Emissions that are from the generation of purchased energy for an owned or controlled entity. For example, emissions from purchased electricity for an operated building are considered Scope 2 emissions.
Scope 3 (Indirect) GHG Emissions	Emissions from sources that are not owned or within operational control (indirect), not included in Scope 2. These emissions are linked to the reporting entity’s operations. For example, emissions from staff commuting are considered Scope 3 emissions.

# 1 Introduction

The Calgary Board of Education (CBE) is the largest school district in Western Canada and is committed to being a sustainability leader in environmental education and energy management on a school and system level<sup>1</sup>. Since 2007, the CBE has been advancing environmental programs and working towards becoming a model for local and global environmental stewardship.

In 2014 the CBE published a Sustainability Framework outlining sustainability targets. The CBE updated targets for 2020 in 2018. Included in the targets was developing a greenhouse gas (GHG) inventory, using 2005 as a baseline and evaluating emissions against the baseline. However, some data required for the GHG inventory was not tracked in 2005, and therefore the CBE has opted to use the 2010/11 school year as a baseline for the inventory, while the 2014/15 and 2019/20 school years will be used to compare and determine whether GHG reduction targets were achieved. The CBE set a goal to reduce greenhouse gas emissions to 12% below baseline levels by the 2019/20 school year.

The purpose of this report is to:



<sup>1</sup> Calgary Board of Education, Sustainability. <https://cbe.ab.ca/about-us/sustainability>

# 2 Methodology

## 2.1 Description of Inventory Scope

The International Organization for Standardization (ISO) 14064-1 standard sets out the principles and standards for greenhouse gas quantification and reporting for organizations. ISO 14064-1 describes five principles which are fundamental to ensure any GHG inventory is accurate and fairly representative of the organization. The five principles are<sup>2</sup>:

- **Relevance**- Selecting GHG sources, data and methodologies appropriate for the inventory and intended users of the inventory.
- **Completeness**- Include all relevant GHG emissions and removals.
- **Consistency**- Enable meaningful comparisons in GHG related information and prior inventories.
- **Accuracy**- Reduce bias and uncertainties as far as is practical.
- **Transparency**- Disclose sufficient and appropriate GHG related information to allow intended users to make decisions with reasonable confidence.

The CBE has made every effort to adhere to these principles while updating their GHG inventory.

In addition to ISO 14064-1, the CBE has utilized the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard”, which sets out requirements and guidance for organizations to develop a comprehensive GHG inventory. The “Greenhouse Gas Protocol” stipulates that certain greenhouse gas types and global warming potentials (GWPs) be included in any organizational inventory. Within greenhouse gas reporting there are three scopes of emissions that should be considered. The scopes are defined as:

- **Scope 1**: all direct emissions from sources that are owned or are within operational control of the reporting entity.
- **Scope 2**: indirect emissions from the generation of purchased energy for an owned or controlled entity.
- **Scope 3**: indirect emissions from sources that are not owned or within operational control. These emissions are linked to the reporting entity’s operations.

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<sup>2</sup> International Standard, ISO 14064-1, Greenhouse Gases Part 1: Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals.

The “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” requires that entities must report all Scope 1 and 2 emissions, while the reporting of Scope 3 emissions is voluntary. For the purposes of the CBE greenhouse gas inventory, all Scope 1 and 2 emission sources are reported, along with selected Scope 3 emission sources. Through a facilitated workshop exercise, the Calgary Board of Education determined which Scope 3 emission sources to include by evaluating the magnitude, level of influence, risk associated, and employee engagement level related to each emission source and included those sources which the organization can measure, influence and had a reasonable level of magnitude in the inventory. More details on the selected Scope 3 emission sources can be found in Section 2.5.

In addition to emission scopes, the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” stipulates that certain greenhouse gas types be included in the GHG inventory.

Scope of Greenhouse Gases:

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous Oxide (N<sub>2</sub>O)
- Sulfur hexafluoride (SF<sub>6</sub>)
- Nitrogen trifluoride (NF<sub>3</sub>)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)

For each greenhouse gas type, a global warming potential (GWP) can be applied to convert each species into an equivalent mass of carbon dioxide (carbon dioxide equivalent – CO<sub>2</sub>e). 100-year GWPs from the 2007 Intergovernmental Panel on Climate Change (IPCC) Assessment Report (Fourth Assessment Report) have been used, in order to be consistent with Government of Alberta greenhouse gas reporting programs. The greenhouse gas types and associated 100-year GWP can be found below in Table 2.

Table 2: Global Warming Potential (GWP) for Different GHG Gases

Gas Type	Chemical Formula	100-Year Global Warming Potential
Carbon Dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	25
Nitrous Oxide	N <sub>2</sub> O	298
HCFC (Refrigerant R22)	CHClF <sub>2</sub>	1810
HFC (Refrigerant R438a)	Blend of: 8.5 wt% HFC32 45 wt% HFC125 44.2 wt% HFC134a 1.7 wt% HC-600 0.6 wt% HC-601a	2264

Gas Type	Chemical Formula	100-Year Global Warming Potential
HFC (Refrigerant R407c)	Blend of: 23 wt% CH <sub>2</sub> F <sub>2</sub> 25 wt% CHF <sub>2</sub> CF <sub>3</sub> 52 wt% CH <sub>2</sub> FCF <sub>3</sub>	1774
HFC (Refrigerant R410a)	Blend of: 50 wt% CH <sub>2</sub> F <sub>2</sub> 50 wt% CHF <sub>2</sub> CF <sub>3</sub>	2088
HFC (Refrigerant R134a)	CH <sub>2</sub> FCF <sub>3</sub>	1430

## 2.2 Description of the Reporting Entity

The CBE is the public school system in Calgary and largest school district in Western Canada. The CBE provides educational services to 125,809 students (as of September 30, 2019) between kindergarten and Grade 12 and employs 10,584 staff members (as of 2019). The CBE has developed schools that encompass the unique needs of students, staff, parents and community members. As of 2019, the CBE owned and operated 247 buildings, with the earliest school being operational in 1908 and the most recent, up to the reporting period, being operational in 2018. It should be noted that three additional schools were built and operated starting September 1, 2020, however these schools fall outside of the reporting period and were therefore, not considered to be in scope for the inventory.

## 2.3 Reporting Period

To complete a GHG inventory, a reporting period must be selected. The reporting period for an organization’s inventory is generally defined in terms of calendar or fiscal year. As the previous GHG inventory and baseline were quantified based on a fiscal year as a reporting period, the 2019/20 inventory update will also be completed using the fiscal year as the reporting period. Specifically, the reporting period used for this report is September 1, 2019 to August 31, 2020.

## 2.4 Organizational Boundaries

Establishing an organizational boundary before developing an inventory is required to understand where to draw the boundary around the inventory, and which emission sources should be included or excluded. The “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” recommends choosing one of two approaches:

- 1) Operational control, means including emissions from any operations that are within control of the reporting entity, whether leased or owned, or
- 2) Equity share approach, means emissions are measured from facilities for which the reporting entity has some degree of ownership.

The Calgary Board of Education is an independent entity, under direct control of the Alberta Government, and therefore the CBE owns buildings and vehicles, for which it has both financial and operational control. The CBE operates within several leased buildings; however, the CBE does not have financial or operational control over these buildings, and therefore they will not be encompassed in the

inventory. Since the CBE has drawn a boundary around the operated emission sources, the organizational boundary for the organization is defined by the operational control method.

## 2.5 Operational Emission Sources

All emission sources included in the inventory can be classified into one of the three scopes discussed in Section 2.1. The emission sources listed below were selected to be included in the quantification based on relevance and significance. For the purposes of the inventory, sources that affected at least 5% of the total GHG inventory were considered significant. Details on the rationale and all emission sources considered for the inventory can be found in Appendix A.



Scope 1: Direct emissions from sources that are within the operational control of the reporting entity.

- Diesel and gasoline combustion emissions from the vehicle fleet operated by the CBE
- Natural gas combusted for heating and cooking inside the buildings operated by the CBE
- Leakage of perfluorocarbons and hydrofluorocarbons (PFCs/HFCs) from air conditioning units



Scope 2: Indirect emissions from purchased energy for an owned or controlled entity.

- Emissions associated with electricity consumption from the Alberta electricity grid



Scope 3: Indirect emissions linked to the reporting entity's operations.

- Upstream production emissions from natural gas
- Upstream production emissions from diesel and gasoline
- Staff commuting to and from their workplace
- Third-party bus fleet to transport elementary students to and from their school
- Waste emissions from landfill, recycling and composting waste
- Water consumption from CBE buildings
- Vehicle business travel for CBE staff

## 2.6 Data Sources

Table 3 lists the data sources that have been used in this GHG inventory. The level of uncertainty has been evaluated for each emission source based on available information regarding each respective data source. For the emission sources that were identified to have a medium or high level of uncertainty, recommendations for future data captures can be found in Table B in the Appendix.

Table 3: Data source associated with each emission source

Emission Source	Scope	Data Source	Level of Uncertainty
Natural Gas Combustion	Scope 1	Billing data from utility company	Low
Fuel for CBE Vehicle Fleet	Scope 1	Fuel purchase export for all fleet vehicles	Low
Refrigerants	Scope 1	Refrigerant additions from HVAC companies	Medium
Electricity Consumption	Scope 2	Billing data from utility company	Low
Staff Commuting	Scope 3	Estimation based on distance staff live from their workplace	High
Third-Party Bus Fleet	Scope 3	Based on an estimation of the bus fuel economy (litres/day), and the number of days the bus was used to transport students. The fuel economy is based on historical data gathered by the CBE.	Medium
Waste <sup>1</sup>	Scope 3	CBE summary sheets for each waste type from waste management services	Medium
Water Consumption <sup>1</sup>	Scope 3	Export from utility company	Low
Business Travel <sup>1</sup>	Scope 3	Export of kilometers driven from mileage reports	Low
Natural Gas Extraction & Processing	Scope 3	Billing data from utility company	Low
Production of Fuel for CBE Vehicle Fleet	Scope 3	Fuel purchase export for all fleet vehicles	Low

<sup>1</sup> These emission sources were not included in the 2010/2011, or 2014/2015 inventory calculations

## 2.7 GHG Calculation Methodology

This section outlines the calculation methodology, data sources and factors used to calculate each emission source in the inventory.

### 2.7.1 Natural Gas Consumption

The natural gas combusted in CBE buildings for heat and cooking is quantified using the volume of natural gas consumed and an emission factor. The volume of natural gas is calculated from the utility company export for each building. The export from the utility company records natural gas in units of energy, gigajoules (GJ). To convert natural gas from an energy unit to a volume unit, the energy content of natural gas is required. As this data was not available from Alberta utility companies, the natural gas energy content from FortisBC, a British Columbia utility company, was used in the baseline quantification. To maintain consistency with the previous inventories, data from FortisBC was used to quantify the 2019/20 inventory. For 2019/20 the energy content of 39.769 GJ/e<sup>3</sup>m<sup>3</sup> of natural gas was used in the quantification.<sup>3</sup>

The volume of natural gas can be determined from the energy content using Equation 1 below.

$$V_{\text{Nat Gas}} = \frac{E}{39.769 \text{ GJ/e}^3\text{m}^3} \times \text{Conversion Factor} \quad [1]$$

Where:

- $V_{\text{Nat Gas}}$  = Volume of natural gas (m<sup>3</sup>)
- E = Energy content of natural gas (GJ)
- Conversion Factor = 1000 (to convert e<sup>3</sup>m<sup>3</sup> to m<sup>3</sup>)

Once the volume of natural gas has been calculated, the emissions associated with the combustion of natural gas can be calculated using Equation 2 below.

$$\text{Emissions} = [(V_{\text{Nat Gas}} \times EF_{\text{CO}_2} \times GWP_{\text{CO}_2}) + (V_{\text{Nat Gas}} \times EF_{\text{CH}_4} \times GWP_{\text{CH}_4}) + (V_{\text{Nat Gas}} \times EF_{\text{N}_2\text{O}} \times GWP_{\text{N}_2\text{O}})] \times \text{Conversion Factor} \quad [2]$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- $V_{\text{Nat Gas}}$  = Volume of natural gas (m<sup>3</sup>)
- EF = Emission Factor (See Tables 4 and 5 below)
- GWP = Global Warming Potential (See Table 2)
- Conversion Factor = 0.001 (to convert kg to tonnes)

Table 4: Combustion emission factors for natural gas

Natural Gas Combustion Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	1.928	kg CO <sub>2</sub> /m <sup>3</sup>	

<sup>3</sup> This value was calculated from an average of the natural gas energy content values published by FortisBC, a utility company in British Columbia during the reporting period: Natural Gas Price, Market and Curtailment Information. <https://www.fortisbc.com/services/commercial-industrial-services/natural-gas-price-market-curtailment-information>

Natural Gas Combustion Emission Factors	Value	Units	Source
CH <sub>4</sub> Emission Factor	0.000037	kg CH <sub>4</sub> /m <sup>3</sup>	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
N <sub>2</sub> O Emission Factor	0.000035	kg N <sub>2</sub> O/m <sup>3</sup>	

The direct Scope 1 emissions associated with natural gas combustion can be calculated using Equation 2 and the emission factors listed in Table 4. In addition to the Scope 1 emissions, there are upstream emissions associated with producing the natural gas. These emissions, referred to as extraction and processing emissions, are categorized in Scope 3. For this source, the volume of natural gas calculated in Equation 1 is used to calculate the emissions. Equation 2 is then repeated using both the extraction and processing emission factors found in Table 5 below.

Table 5: Natural Gas Extraction and Processing Emission Factors

Natural Gas Extraction Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	0.043	kg CO <sub>2</sub> /m <sup>3</sup>	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
CH <sub>4</sub> Emission Factor	0.0023	kg CH <sub>4</sub> /m <sup>3</sup>	
N <sub>2</sub> O Emission Factor	0.000004	kg N <sub>2</sub> O/m <sup>3</sup>	

Natural Gas Processing Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	0.09	kg CO <sub>2</sub> /m <sup>3</sup>	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
CH <sub>4</sub> Emission Factor	0.0003	kg CH <sub>4</sub> /m <sup>3</sup>	
N <sub>2</sub> O Emission Factor	0.000003	kg N <sub>2</sub> O/m <sup>3</sup>	

### 2.7.2 Fuel for CBE Vehicle Fleet

The CBE operates a maintenance vehicle fleet for their buildings and operations. The gasoline and diesel fuel purchases made for vehicles in the fleet are purchased using fleet cards. An export of the fleet fuel purchases is used to quantify the volume of diesel and gasoline consumed by the vehicle fleet. Scope 1 emissions include the combustion of gasoline and diesel from the fleet and the Scope 3 emissions include the upstream production emissions associated with these fuels. Both the Scope 1 and 3 emissions are calculated using Equation 3 below.

$$\text{Emissions} = [(V_{\text{Diesel or Gasoline}} \times EF_{\text{CO}_2} \times GWP_{\text{CO}_2}) + (V_{\text{Diesel or Gasoline}} \times EF_{\text{CH}_4} \times GWP_{\text{CH}_4}) + (V_{\text{Diesel or Gasoline}} \times EF_{\text{N}_2\text{O}} \times GWP_{\text{N}_2\text{O}})] \times \text{Conversion Factor} \quad [3]$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- V<sub>Diesel or Gasoline</sub> = Volume of diesel or gasoline (litres)
- EF = Emission Factor (See Table 7 below)
- GWP = Global Warming Potential (See Table 2)

Conversion Factor = 0.001 (to convert kg to tonnes)

To calculate the combustion emissions (Scope 1) associated with the vehicle fleet the combustion emission factors below in Table 6 are used. To calculate the upstream processing emissions (Scope 3) associated with the vehicle fleet, the production emission factors in Table 6 are used in Equation 3.

Table 6: Gasoline and Diesel Combustion & Production Emission Factors

Combustion Emission Factors	Value	Units	Source
Gasoline CO <sub>2</sub> Emission Factor	2.307	kg CO <sub>2</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
Gasoline CH <sub>4</sub> Emission Factor	0.0001	kg CH <sub>4</sub> /L	
Gasoline N <sub>2</sub> O Emission Factor	0.00002	kg N <sub>2</sub> O/L	
Diesel CO <sub>2</sub> Emission Factor	2.681	kg CO <sub>2</sub> /L	
Diesel CH <sub>4</sub> Emission Factor	0.000133	kg CH <sub>4</sub> /L	
Diesel N <sub>2</sub> O Emission Factor	0.0004	kg N <sub>2</sub> O/L	

Gasoline & Diesel Production Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	0.138	kg CO <sub>2</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
CH <sub>4</sub> Emission Factor	0.0109	kg CH <sub>4</sub> /L	
N <sub>2</sub> O Emission Factor	0.000004	kg N <sub>2</sub> O/L	

### 2.7.3 Refrigerants

Refrigerants are chemicals associated with HVAC systems including air conditioners. These refrigerants contain chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs) which have high global warming potentials. A small amount of these refrigerants is lost to the atmosphere through leaks and thus, when the refrigerant levels need to be replenished it can be assumed that the amount replaced has been emitted to the atmosphere. To quantify the emissions from refrigerants, the mass of the refrigerant lost to the atmosphere, along with the GWP are required. The calculation can be found below in Equation 4.

$$\text{Emissions} = \text{Mass}_{\text{Refrigerant}} \times \text{GWP} \times \text{Conversion Factor} \tag{4}$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- Mass<sub>Refrigerant</sub> = Mass of the refrigerant replaced (kg)
- GWP = Global warming potential of the refrigerant (See Table 2)

Conversion Factor = 0.001 (to convert kg to tonnes)

### 2.7.4 Electricity Consumption

The emissions associated with the electricity imported from the Alberta grid for use in CBE buildings can be quantified using Equation 5 below. The electricity consumption was determined using an export provided by the utility company for all CBE buildings. The Alberta Consumption Intensity emission factor is published annually in the National Inventory Report (NIR)<sup>4</sup>. At the time the inventory was completed, the 2021 NIR was the most recent publication with the 2019 consumption intensity published. The 2019 intensity of 0.670 kg CO<sub>2</sub>e/kWh was used for the emissions calculations.

$$\text{Emissions} = \text{Electricity} \times EF_{\text{Alberta}} \times \text{Conversion Factor} \quad [5]$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- Electricity = Electricity Consumed (kWh)
- EF<sub>Alberta</sub> = Alberta Consumption Intensity (kg CO<sub>2</sub>e/kWh)
- Conversion Factor = 0.001 (to convert kg to tonnes)

### 2.7.5 Staff Commuting

Staff commuting emissions are included in the Scope 3 category and are estimated based on the average distance staff members live from their workplace. In the baseline and previous inventory, a “worst case” scenario was modelled assuming each staff member drives to work in a vehicle every operational day during the school year. An “average” vehicle type was chosen to estimate fuel consumption, and a Toyota Camry was selected as the model. Referencing the ISO 14064-1 principles, consistency should be maintained when comparing inventories. For this reason, the use of an average vehicle type was maintained in the 2019/20 inventory update, and the vehicle fuel economy was updated in the calculation to reflect a 2020 3.5L 6-cylinder Toyota Camry<sup>5</sup>. There is a great deal of uncertainty in the commuting data as staff members may walk, bike, take public transit or carpool to work, and there are many different vehicle models that may be used. However, given the data available and to maintain consistency from prior inventories, the assumptions and methodology used to quantify will be maintained for this reporting period. Using the data provided by the CBE, the total distance driven by each staff member was summed and used in Equation 6 below to calculate the total litres of gasoline consumed by staff commuting.

$$V_{\text{Gasoline}} = \text{Distance} \times \text{Operational Days} \times \frac{\text{Fuel Economy}}{100} \quad [6]$$

Where:

- V<sub>Gasoline</sub> = Volume of gasoline consumed (litres)
- Distance = Daily distance driven by all staff commuting (km)
- Operational Days = Number of operational days in the 2019-20 school year
- Fuel Economy = Average fuel economy for a 2020 Toyota Camry (litres/100km)

<sup>4</sup> National Inventory Report 1990-2019: Greenhouse Gas Sources and Sinks in Canada, Part 3. 2021 Publication. Environment and Climate Change Canada

<sup>5</sup> U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, 2020 Toyota Camry Fuel Economy

The emissions associated with staff commuting, using the volume of gasoline consumed, is calculated using Equation 7.

$$\text{Emissions} = [(V_{\text{Gasoline}} \times EF_{\text{CO}_2} \times GWP_{\text{CO}_2}) + (V_{\text{Gasoline}} \times EF_{\text{CH}_4} \times GWP_{\text{CH}_4}) + (V_{\text{Gasoline}} \times EF_{\text{N}_2\text{O}} \times GWP_{\text{N}_2\text{O}})] \times \text{Conversion Factor} \quad [7]$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- V<sub>Gasoline</sub> = Volume of gasoline from Equation 6 (litres)
- EF = Emission Factor (See Table 8 below)
- GWP = Global Warming Potential (See Table 2)
- Conversion Factor = 0.001 (to convert kg to tonnes)

Both the combustion and upstream emissions associated with staff commuting are included in Scope 3. Equation 7 is repeated twice, once with the combustion emission factors and again with the upstream production emission factors in Table 7 below.

Table 7: Gasoline Combustion and Production Emission Factors

Gasoline Combustion Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	2.307	kg CO <sub>2</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
CH <sub>4</sub> Emission Factor	0.0001	kg CH <sub>4</sub> /L	
N <sub>2</sub> O Emission Factor	0.00002	kg N <sub>2</sub> O/L	
Gasoline Production Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	0.138	kg CO <sub>2</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
CH <sub>4</sub> Emission Factor	0.0109	kg CH <sub>4</sub> /L	
N <sub>2</sub> O Emission Factor	0.000004	kg N <sub>2</sub> O/L	

### 2.7.6 Business Travel

Staff travel over and above daily commuting to and from the workplace is captured under the Business Travel emission source category. The distance driven was provided by the CBE from mileage reports. The methodology described in Section 2.7.5 was used to quantify the emissions from this source. The volume of gasoline consumed can be calculated using Equation 6 and the emissions calculated using Equation 7, from Section 2.7.5.

### 2.7.7 Third-Party Bus Fleet

The CBE contracts bus providers to transport elementary students to their respective school. These bus providers use propane, gasoline and diesel fuelled buses to transport students. The CBE has determined an average fuel use per bus per fuel type per day based on historical data. The total number of days each bus transports students is recorded in an online software system that uses the

average fuel use for that bus to estimate the volumes of fuel consumed. The CBE provides an export of the total volume of diesel, gasoline and propane consumed by the bus fleet during the school year. The export provided by the CBE for the 2019/20 school year was based on 180 operational days; however, the bus services were paused mid-March due to COVID-19, and therefore, a corresponding discount factor of 0.35 was applied to the total estimated volume of fuel for the school year to account for this change in operations. There are both combustion and upstream production emissions associated with the fuels that are calculated using Equation 8. The respective emission factors can be found in Table 8.

$$\text{Emissions} = \left[ (V_{\text{Diesel or Gasoline or Propane}} \times \text{EF}_{\text{CO}_2} \times \text{GWP}_{\text{CO}_2}) + (V_{\text{Diesel or Gasoline or Propane}} \times \text{EF}_{\text{CH}_4} \times \text{GWP}_{\text{CH}_4}) + (V_{\text{Diesel or Gasoline or Propane}} \times \text{EF}_{\text{N}_2\text{O}} \times \text{GWP}_{\text{N}_2\text{O}}) \right] \times \text{Conversion Factor} \quad [8]$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- V<sub>Diesel or Gasoline or Propane</sub> = Volume of diesel, gasoline or propane (litres)
- EF = Emission Factor (See Table 8 below)
- GWP = Global Warming Potential (See Table 2)
- Conversion Factor = 0.001 (to convert kg to tonnes)

Table 8: Gasoline, Diesel and Propane Combustion and Production Emission Factors

Combustion Emission Factors	Value	Units	Source
Gasoline CO <sub>2</sub> Emission Factor	2.307	kg CO <sub>2</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
Gasoline CH <sub>4</sub> Emission Factor	0.0001	kg CH <sub>4</sub> /L	
Gasoline N <sub>2</sub> O Emission Factor	0.00002	kg N <sub>2</sub> O/L	
Diesel CO <sub>2</sub> Emission Factor	2.681	kg CO <sub>2</sub> /L	
Diesel CH <sub>4</sub> Emission Factor	0.000133	kg CH <sub>4</sub> /L	
Diesel N <sub>2</sub> O Emission Factor	0.0004	kg N <sub>2</sub> O/L	
Propane CO <sub>2</sub> Emission Factor	1.515	kg CO <sub>2</sub> /L	
Propane CH <sub>4</sub> Emission Factor	0.000027	kg CH <sub>4</sub> /L	
Propane N <sub>2</sub> O Emission Factor	0.000108	kg N <sub>2</sub> O/L	
Gasoline & Diesel Production Emission Factors	Value	Units	Source
CO <sub>2</sub> Emission Factor	0.138	kg CO <sub>2</sub> /L	

CH <sub>4</sub> Emission Factor	0.0109	kg CH <sub>4</sub> /L	Carbon Offset Emission Factors Handbook, Version 2.0, November 2019
N <sub>2</sub> O Emission Factor	0.000004	kg N <sub>2</sub> O/L	

### 2.7.8 Waste

Among the many methodologies available for calculating emissions associated with waste disposal, the United States Environmental Protection Agency’s (US EPA) Waste Reduction Model (WARM) is one of the most commonly applied in voluntary greenhouse gas inventories.<sup>6</sup> The WARM tool utilizes material-specific emission factors based on the likely fate of the material or product depending on whether it is landfill, recycling or composting waste.

For landfill waste, the national average emission factor for municipal solid waste is 0.36 tonnes CO<sub>2</sub>e/short ton of weight. The data provided by the CBE is listed in cubic yards of waste removed from the buildings and therefore a relationship between the weight and volume of the waste is required. The CBE tracks the monthly weight of waste disposal and the weight per cubic yard of waste can then be calculated. For landfill waste the average weight of a cubic yard was 38 pounds. Using this relationship, the relevant emission factor for landfill waste is 0.00684 tonnes CO<sub>2</sub>e/yd<sup>3</sup> of waste.

A similar methodology is applied to composting waste. For mixed organics, the WARM tool generates an emission factor of 0.09 tonnes CO<sub>2</sub>e/short ton of weight, with the average cubic yard of food waste weighing 30 pounds. With these values, the emission factor for organic compost waste is 0.00135 tonnes CO<sub>2</sub>e/yd<sup>3</sup>.

For recycling waste, the WARM tool generates a negative emission factor to illustrate the emission savings of recycling and re-using instead of disposing in a landfill and manufacturing a new product. The WARM emission factor associated with recycling is -0.30 tonnes CO<sub>2</sub>e/short ton of weight. Since the landfill waste factor is 0.36 tonnes CO<sub>2</sub>e/short ton, it can be assumed that recycling alone generates 0.06 tonnes CO<sub>2</sub>e/short ton. The average weight for a cubic yard of commingled recyclable material is 21.7 pounds, therefore the emissions factor is 0.00065 tonnes CO<sub>2</sub>e/yd<sup>3</sup>.

Using the data the CBE has collected on landfill, recycling and composting waste volumes, the total emissions associated with these waste categories can be calculated using Equation 9 below.

$$\text{Emissions} = V_{\text{waste}} \times EF_{\text{waste}} \tag{9}$$

Where:

- Emissions = CO<sub>2</sub>e Emissions (tonnes)
- V<sub>Waste</sub> = Volume of waste (yd<sup>3</sup>)
- EF<sub>waste</sub> = Emission factor associated with each waste type (tonnes CO<sub>2</sub>e/yd<sup>3</sup>)

### 2.7.9 Water Consumption

Emissions associated with water consumption include the following emissions:

<sup>6</sup> United States Environmental Protection Agency, Waste Reduction Model (WARM), May 2019

- 1) Direct emissions - result from the energy required to heat hot water or purify it. In this case, the direct emissions are already accounted for in Scope 1 and 2 through the volume of natural gas and electricity consumed in the buildings.
- 2) Indirect emissions - result from the extraction, treatment, distribution of the water supply, and wastewater treatment.

The indirect emissions intensity is dependent on whether the water supply is groundwater or surface and if it has a small or large capacity. For Calgary, the municipal water supply is from the Bow River and Elbow River surface watersheds and the system can be considered to have large capacity of over 5,000 m<sup>3</sup>/day. Based on these inputs, the estimated energy intensity for water consumption in Calgary is 0.68 kWh/m<sup>3</sup><sup>7</sup>. The energy intensity is based on the electricity required for the extraction, distribution and wastewater treatment. The energy intensity can be converted to an emission factor using the most recently published Alberta electricity consumption intensity emission factor from the National Inventory Report. At the time of writing this report, the electricity consumption intensity factor is 0.670 kg CO<sub>2</sub>e/kWh for Alberta. Considering these parameters, the estimated water consumption emission factor is 0.4556 kg CO<sub>2</sub>e/m<sup>3</sup>. The CBE tracks the volume of water consumed at its facilities based on data provided by the utility company. Using this data, the emissions associated with water consumption can be calculated using Equation 10 below.

$$\text{Emissions} = V_{\text{water}} \times EF_{\text{water}} \times \text{Conversion Factor} \tag{10}$$

Where:

Emissions	= CO <sub>2</sub> e Emissions (tonnes)
V <sub>Water</sub>	= Volume of water consumed (m <sup>3</sup> )
EF <sub>water</sub>	= Emission factor (0.4624 kg CO <sub>2</sub> e/m <sup>3</sup> )
Conversion Factor	= 0.001 (to convert kg to tonnes)

<sup>7</sup> Greenhouse Gas and Energy Co-Benefits of Water Conservation, Carol Maas, March 2009

# 3 Inventory

## 3.1 Actual Emissions

The CBE’s greenhouse gas inventory was quantified for the 2010/11 baseline year and updated for the 2014/15 school year. Since the 2010/11 and 2014/15 inventories were prepared, additional Scope 3 emission sources have been identified and were included in the 2019/20 inventory. The baseline and 2014/15 emissions will be adjusted for these additional scopes in a later section of this report. The actual emissions reported for the baseline and 2014/15 inventory can be seen below in Table 9 compared to the 2019/20 inventory.

Table 9: Comparison of the actual emissions from 2010/11 to 2019/20

Emission Source	Scope	2010/11 Emissions (Tonnes CO2e)	2014/15 Emissions (Tonnes CO2e)	2019/20 Emissions (Tonnes CO2e)	Percent Above (+) or Below (-) the 2010/11 Baseline
Natural Gas Consumption	Scope 1	50,304	41,222	48,140	-4.3%
Fuel for CBE Vehicle Fleet - Gasoline	Scope 1	763	660	628	-17.7%
Fuel for CBE Vehicle Fleet - Diesel	Scope 1	336	314	296	-12.0%
Refrigerants	Scope 1	1,062	1,062	1,041	-2.0%
Electricity Consumption	Scope 2	63,038	59,858	43,746	-30.6%
Staff Commuting	Scope 3	6,468	5,970	9,423	+45.7%
Third-Party Bus Fleet - Gasoline <sup>1</sup>	Scope 3	-	-	1,516	N/A
Third-Party Bus Fleet - Diesel	Scope 3	14,071	14,071	9,331	-33.7%
Third-Party Bus Fleet - Propane	Scope 3	587	587	8,291	+1312.4%
Waste <sup>1</sup>	Scope 3	-	-	466	N/A
Water Consumption <sup>1</sup>	Scope 3	-	-	161	N/A
Business Travel <sup>1</sup>	Scope 3	-	-	233	N/A
Natural Gas Extraction & Processing <sup>1</sup>	Scope 3	-	-	4,967	N/A
CBE Vehicle Fleet Gasoline & Diesel Production	Scope 3	-	-	155	N/A
<b>TOTAL</b>		<b>136,629</b>	<b>123,744</b>	<b>128,372</b>	<b>-6.0%</b>

<sup>1</sup> These emission sources were not included in the 2010/2011 and 2014/2015 emission inventory reports

The results of Table 9 indicate that the greenhouse gas emissions have decreased since the baseline but increased since the 2014/15 inventory. One particular reason for the increase is that there have been many changes to the organization and reference emission factors that affect the comparison of emissions. Further discussion on the changes between the 2019/20 inventory and the baseline and previous inventory will be discussed in Section 3.2.

A comparison of the baseline, 2014/15 and 2019/20 emissions broken out by Scope category is presented below in Figure 1. The 2019/20 pie chart is shown excluding additional Scope 3 emission

sources that were not included in the baseline and 2014/15 inventory. These emission sources include: Natural Gas Extraction & Processing, CBE Vehicle Fleet Gasoline & Diesel Production, Waste, Water Consumption and Business Travel.

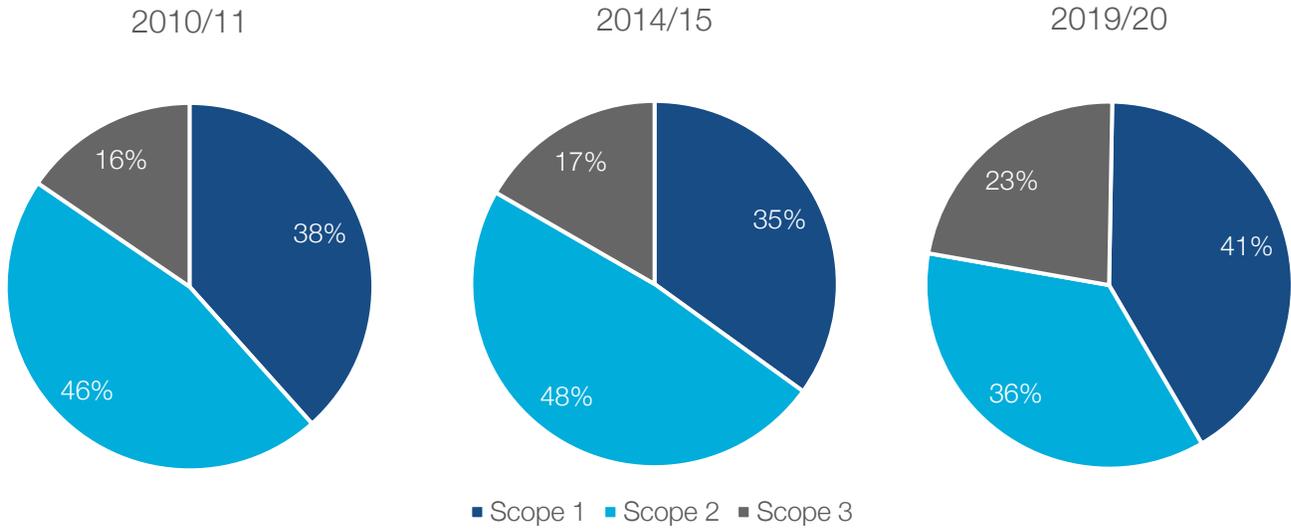


Figure 1: Comparison of Inventory Make-Up

Figure 2 illustrates the difference in the 2019/20 inventory make up when including and excluding the additional Scope 3 emission sources, referenced above. Figure 1 shows the relative consistency in the makeup of the inventory while Figure 2 illustrates the change in inventory composition with the additional Scope 3 emission sources.

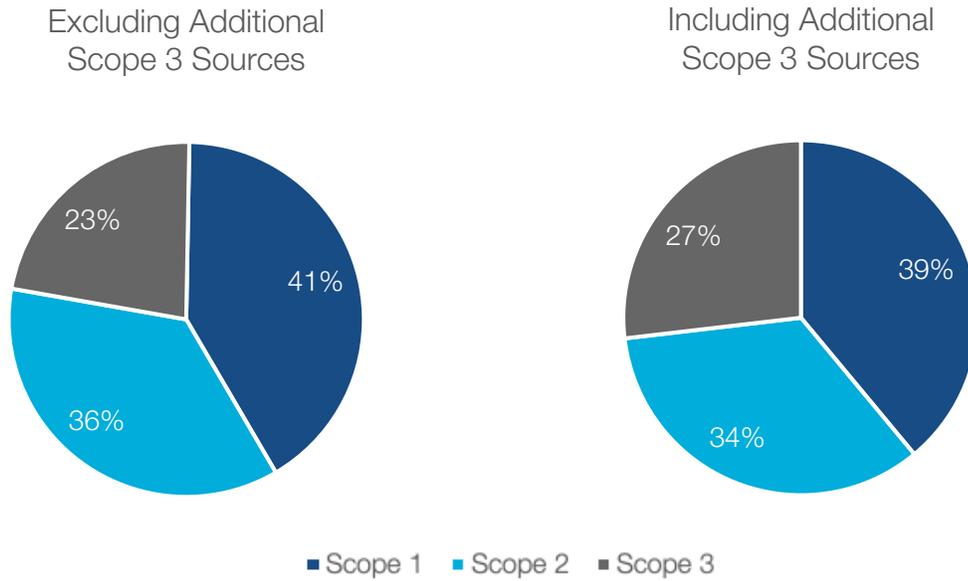


Figure 2: 2019/20 Inventory Composition Comparison

In addition to the breakdown of emissions by Scope, the emissions inventories can be compared by each emission source in Figure 3 below.

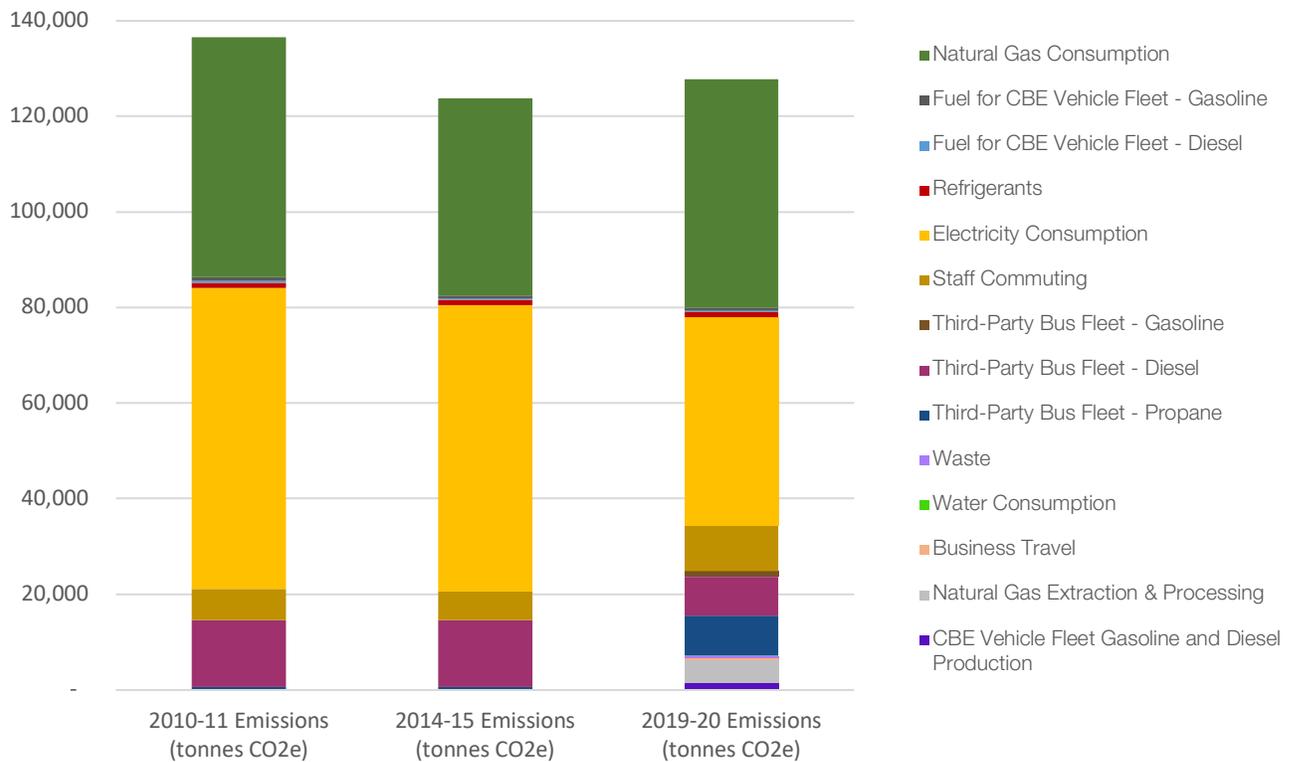


Figure 3: Comparison of contributions of each emission source from 2010/11 to 2019/20

As shown in Figure 3, the largest two emission sources across all inventories are natural gas and electricity consumption. The CBE has been implementing electrical energy conservation and renewable electricity generation initiatives since the baseline, including retrofitting to LED lights and installing solar panels on several schools. These measures are reducing emissions. However emissions from natural gas consumption have not decreased to the same extent.

Scope 3 emissions have increased substantially from the previous inventory. The CBE can reduce certain Scope 3 emissions by reducing consumption of fuel and electricity (for example, the Scope 3 upstream emissions associated with producing natural gas, diesel and propane). Other sources are not within direct control of the CBE, such as staff commuting, however, the CBE could undertake initiatives to track staff commuting behaviour to increase the accuracy of this emission source and determine future changes in commuting emissions.

### 3.2 Changes from Baseline & 2014/15 Inventory

There have been a number of changes in the emissions quantification from the baseline and 2014/15 inventory to the 2019/20 inventory and a summary of those changes is provided below. Some of these changes have been quantified to gain a better understanding of their impact on the inventory, and others have been normalized in other sections of this report.

#### Higher Heating Value (Energy Content) of Natural Gas

- The energy content was updated from 38.772 GJ/e<sup>3</sup>m<sup>3</sup> to 39.769 GJ/e<sup>3</sup>m<sup>3</sup> based on the average energy content published by FortisBC from September 2019 to August 2020. The increase in energy content of natural gas results in a decrease in natural gas emissions by approximately 2.5%.

#### Alberta Electricity Consumption Intensity Factor

- The Alberta grid electricity consumption intensity emission factor is published annually in the National Inventory Report. This value is adjusted annually to reflect changes in the production of electricity across Alberta. The reported values for 2010/11 (0.870 kg of CO<sub>2</sub>e/kWh for 2010 & 0.760 kg CO<sub>2</sub>e/kWh for 2011) were used for the baseline and the values published for 2013 (0.820 kg CO<sub>2</sub>e/kWh) were used for the 2014/15 school year as they were the most recently published values available at the time the inventory was prepared. The most recent publication for the 2019/20 school year is for 2019 (0.67 kg CO<sub>2</sub>e/kWh). The impact of changing the emission factor from 2014/15 to 2019/20 is a decrease in electricity (Scope 2) emissions of approximately 18% and an impact on the total inventory of 7.5%.

#### Fossil Fuel Emission Factors

- The emission factors handbook used for the natural gas, diesel, gasoline and propane combustion and upstream emission factors was updated to Version 2.0 in November 2019. A sensitivity analysis was performed using the emission factors from V1.0 of the handbook compared to V2.0 and it was determined that using the updated emission factors decreases total inventory emissions by 0.37%.

#### Building Closures & Openings

- Since the 2014/15 school year, three CBE buildings were closed, and 24 additional buildings were opened. The substantial increase in the number of buildings included in the inventory can

make comparing emissions difficult, as more natural gas and electricity would be required to power and heat those schools. To compare buildings from past inventories, a normalization of building operations emissions was completed in Section 3.3.

#### Increase in Maintenance Vehicles

- The CBE operates a fleet of maintenance vehicles which combust gasoline and diesel. In 2014/15, the CBE fleet included a total of 163 vehicles, whereas in 2019/20 the CBE fleet comprised a total of 178 vehicles.

#### Increase in Staff Employed by the CBE

- Based on the commuting information provided by the CBE, the number of staff increased 4% from 10,193 in 2014/2015 to 10,584 in 2019/2020. This increase directly affects the calculation of staff commuting emissions in the Scope 3 category and may also have an impact on the waste and water consumption in buildings.

#### Third-Party Bus Fleet

- Based on information provided by the CBE, a new service provider was contracted in 2017/18 and this provider replaced many diesel buses with propane ones to lower the environmental impacts. This change explains why the volume of propane consumed by buses increased from 2014/15. In addition to the increase in propane, there was no recorded gasoline consumption in the 2014/15 inventory or baseline, however a total of 94 gasoline buses were in use for the 2019/20 school year resulting in a significant increase to bus fleet emissions.

#### COVID-19 Impact

- In March 2020 the World Health Organization (WHO) declared COVID-19 a global pandemic and in response, the CBE shifted its operations to keep its students and staff members healthy. All students and staff were required to work remotely from their homes starting March 16, 2020 through to the end of the reporting period for the inventory. This change impacts almost every emission source within the inventory, some to a higher degree than others. Section 3.4 is dedicated to investigating the impacts of the pandemic on the greenhouse gas inventory, using the 2018/19 school year as a comparison.

#### Additional Scope 3 Emission Sources

- As was discussed in Section 2.5, there are several Scope 3 emission sources that were added to the inventory boundary since the baseline and 2014/15 inventory. These emission sources have been included based on their relevance, magnitude and influenceability; however, including these sources blurs the ability to compare greenhouse gas inventories to the baseline. In an attempt to equally compare inventories, historical data has been utilized to calculate the additional Scope 3 emissions for the baseline and 2014/15 inventory. Details and an analysis of this work will be described in Section 4.

Although not all of the changes highlighted above will be included in the baseline and 2014/15 inventory for comparison purposes, they are important to highlight, and their impact will be discussed in Section 4.

### **3.3 Normalized Emissions from Building Operations**

The Scope 1 and 2 emissions directly from CBE buildings include the combustion of natural gas and consumption of electricity. These two emission sources alone account for more than 70% of the entire

GHG inventory in 2019/20. With the majority of the emissions resulting from these two sources, the CBE should consider focusing future emission reduction initiatives on these sources.

The following three sections aim to normalize emissions from building operations against student population, floor area and building age in an attempt to identify the specific buildings and building types that are performing well and those that could be improved. The building operations emissions from 2014/15 were also normalized over student population, floor area and building age to enable a comparison of results.

### 3.3.1 Normalized to Student Population

Normalizing the greenhouse gas emissions over student population was initially attempted as a means of quantifying the CBE’s emissions intensity, which is a way of comparing emissions to a unit of production or economic output. Normalizing to student population results in an estimate of emissions per student. With this in mind, the emissions from building operations were normalized over the student population as of September 1, 2019 for each school. The results of the analysis can be seen below in Figure 4.

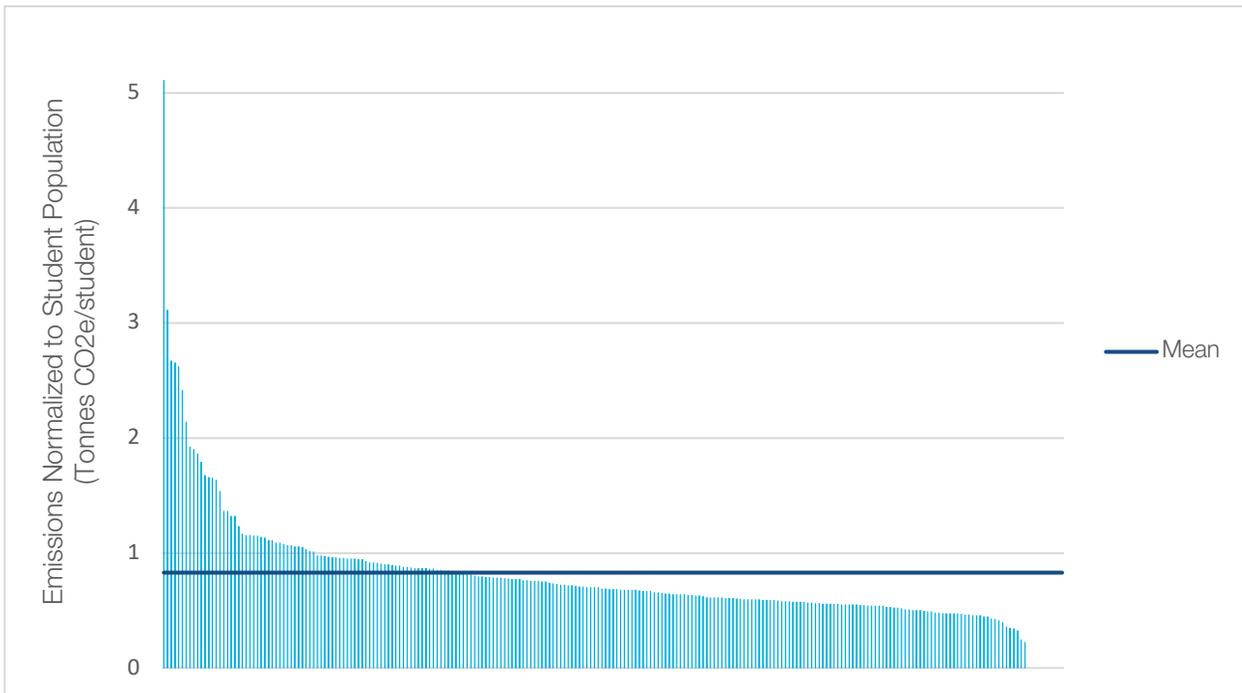


Figure 4: 2019/2020 Emissions normalized to student population

Figure 4 identifies that a handful of buildings on either end of the graph have very high or very low emissions per student, but that the vast majority of the buildings fall within the 0.5-1 tonnes CO<sub>2</sub>e/student range. The calculated mean for all the buildings in the inventory for 2019/20 was 0.820 tonnes CO<sub>2</sub>e/student, this is a reduction of 16% from the 2014/15 data where the average was 0.975 tonnes CO<sub>2</sub>e/student. Further, the student population at the CBE increased by 10% and 22 additional schools were opened from 2014/15 to 2019/20. This increase in population likely helped reduce emissions on a per student level to some degree, but the increase in number of buildings would have

also increased the total quantity of emissions. This data illustrates that despite a growing population, when compared to the previous inventory, emissions on a per student basis are likely decreasing.

As was identified in the 2014/15 inventory update, normalizing emissions based on student population penalizes buildings with a low population density. To further illustrate this, the ten buildings with the highest emissions and lowest emissions per student were identified along with their population density (floor area of building per student). The emissions per student from the 2019/20 inventory were compared with the result from the 2014/15 inventory and are presented below in Table 10.

Table 10: Ten buildings with highest and lowest emissions per student in 2019/20

2019/20 Ten Buildings with Highest GHG Emissions Per Student				
Building Code	Building Name	2014/15 Emissions Normalized (tonnes CO <sub>2</sub> e/student)	2019/20 Emissions Normalized (tonnes CO <sub>2</sub> e/student)	2019/20 Population Density (Area/Student)
036	Emily Follensbee	9.2964	5.0819	46.81
220	Louise Dean	1.7972	3.1008	56.69
133	Rosscarrock	1.9498	2.6638	57.28
229	Renfrew	4.5653	2.6462	44.42
632	Sherwood	3.0513	2.5955	23.16
856	Jack James	1.8015	2.3977	29.99
038	Christine Meikle School	N/A (New Building)	2.1333	35.73
850	Lord Beaverbrook	1.2238	1.8926	27.53
825	James Fowler	1.1908	1.8471	28.39
135	Sir James Lougheed	0.8517	1.7893	34.25
2019/20 Ten Buildings with Lowest GHG Emissions Per Student				
241	Marion Carson	0.8352	0.4296	8.04
627	Elboya	0.6119	0.4230	3.49
358	Rundle	0.6395	0.4164	7.83
675	William D Pratt*	N/A (New Building)	0.4154	3.00
601	Balmoral School	0.4967	0.3977	9.87
127	Dr Roberta Bondar*	N/A (New Building)	0.3604	9.20
339	Chris Akkerman	0.4049	0.3459	6.24
126	Hugh A Bennett*	N/A (New Building)	0.3432	8.78
604	Peter Lougheed*	N/A (New Building)	0.3270	8.02
332	Windsor Park	0.3802	0.2273	6.85

Table 10 clearly demonstrates that a lower population density significantly impacts the normalization of emissions per student. An interesting note, however, is that of the ten buildings with the lowest GHG emissions, four schools were built after 2015 (marked with an asterisk). This would indicate that newer schools generally have lower building operations emissions likely due to heightened energy efficiency measures. In general, however, using student population as a means to normalize emissions from building operations is not encouraged as the normalization is very dependent on the population density which can change easily and frequently.

### 3.3.2 Normalized to Floor Area

Another normalization performed for the 2014/15 inventory was in respect to floor area instead of student population. This approach allows for an emissions comparison over a constant variable and may be more directly related to the energy consumption of the building. The results of normalizing the emissions over floor area for each building can be seen below in Figure 5.

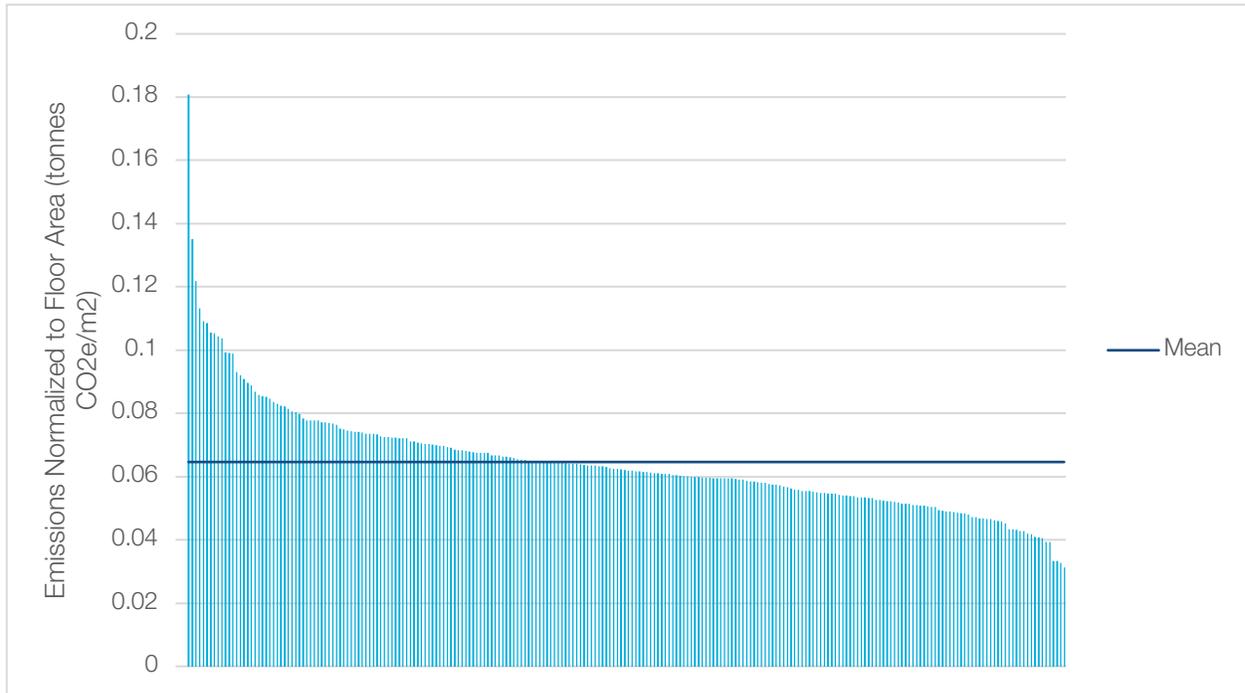


Figure 5: 2019/20 Emissions normalized to floor area

Figure 5 above shows a similar trend to Figure 4, where few buildings display very high normalized emissions, and the vast majority of buildings fall within the plateau of between 0.08-0.04 tonnes CO<sub>2</sub>e/m<sup>2</sup>. The calculated mean for all the buildings in the inventory for 2019/20 was 0.0637 tonnes CO<sub>2</sub>e/m<sup>2</sup>, this is a reduction of almost 16% from the 2014/15 data where the average was 0.0757 tonnes CO<sub>2</sub>e/m<sup>2</sup>. This is an indication that even though the actual emissions published in Section 3.1 indicate an increase in emissions for the CBE, the average operations emissions for each building have decreased since 2014/15.

The emissions per floor area from the 2019/20 inventory were compared with the results from the 2014/15 inventory in Table 11 below.

Table 111: Ten buildings with highest and lowest emissions per area in 2019/20

2019/20 Ten Buildings with Highest GHG Emissions Per Area				
Building Code	Building Name	2014/15 Emissions Normalized (tonnes CO <sub>2</sub> e/m <sup>2</sup> )	2019/20 Emissions Normalized (tonnes CO <sub>2</sub> e/m <sup>2</sup> )	Percent Difference
675	William D. Pratt*	N/A (New Building)	0.1384	-
410	Highfield	-	0.1341	-
627	Elboya	0.0893	0.1211	+35.6%
632	Sherwood	0.1491	0.1121	-24.8%
036	Emily Follensbee	0.1767	0.1086	-38.5%
026	Dr. Carl Safran Centre	0.1341	0.1045	-22.1%
273	Hawkwood	0.0997	0.1044	+4.7%
382	Olympic Heights	0.1016	0.1035	+1.9%
322	Marlborough	0.0842	0.0984	+16.9%
384	Fish Creek	0.1061	0.0925	-12.8%
2019/20 Ten Buildings with Lowest GHG Emissions Per Area				
231	Rosemont	0.0627	0.0417	-33.5%
364	James Short	0.0959	0.0416	-56.6%
604	Peter Lougheed*	N/A (New Building)	0.0408	-
100	Richmond	0.0529	0.0406	-23.3%
601	Balmoral	0.0431	0.0406	-5.8%
127	Dr. Roberta Bondar*	N/A (New Building)	0.0392	-
126	Hugh A. Bennett*	N/A (New Building)	0.0391	-
330	Valleyview	0.0581	0.0332	-42.9%
332	Windsor Park	0.0611	0.0332	-45.7%
389	Hamptons	0.0785	0.0325	-58.6%

Table 11 shows that three of ten lowest emitting buildings were commissioned after the 2014/15 reporting period, again indicating that the newer schools may be more energy efficient.

### 3.3.3 Categorized by Building Age

To determine whether newer schools are truly more energy efficient, all schools included in the quantification were grouped into decadal bins based on construction date and their normalized emissions per floor area were compared. This analysis was also performed in 2014/15 and can be compared to the 2019/20 data below in Figure 6.

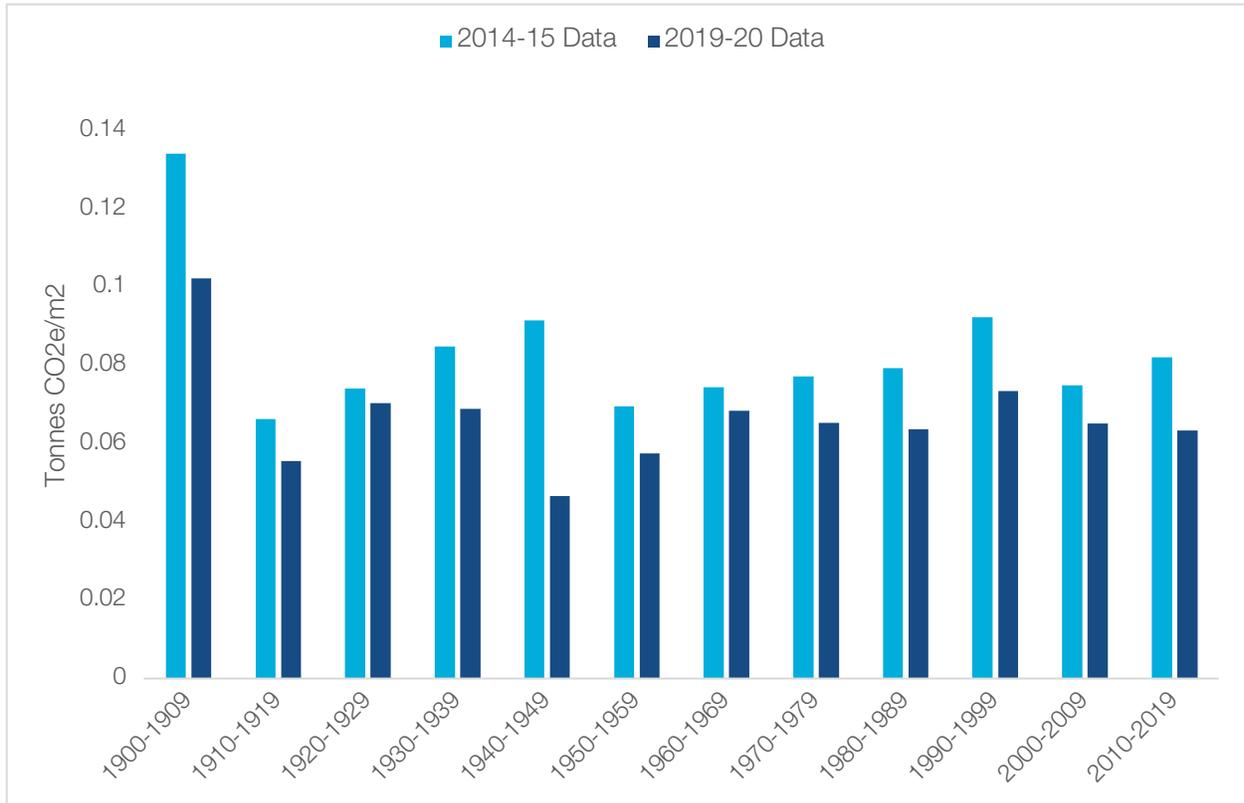


Figure 6: Emissions categorized by building age

The decrease in normalized emissions from 2014/15 to 2019/20 can be seen from Figure 6, indicating that regardless of the building age, all schools have reduced their emissions. It may be inferred from the figure that buildings built between 1940-1949 had the greatest improvement in emission intensity and are among the most energy efficient in the CBE building portfolio. However, there is only one building in the dataset built from 1940-1949 therefore the data accuracy is very low for this decade bin. In general, however, there are 20+ buildings in each decade bin after 1950 and the data can be considered more accurate for those decades. Looking specifically at the data from 1950 to 2019, there does not appear to be a consistent trend between decades, indicating that building age is not the largest factor in the energy efficiency of CBE buildings.

### 3.4 COVID-19 Considerations

In 2018 the CBE updated the Sustainability Framework target to reduce greenhouse gas emissions to 12% below baseline levels by the 2019/20 school year. In the spring of 2020, a global pandemic was declared by the World Health Organization and significantly impacted the CBE’s operations. The CBE shifted its operations in March 2020 to enable students and some staff to work remotely. This impacted a number of emission sources within the inventory, possibly deflating some emission sources that would have been higher if the pandemic had not occurred. To understand the possible impacts of COVID-19 an analysis of the 2018/19 school year emissions was conducted and compared to the emissions in 2019/2020. It is possible any material difference between the school years could be

accounted for by behavioural and operational differences during the COVID-19 pandemic. Table 12 below presents a comparison of the emissions from 2018/19 to 2019/20.

Table 122: Comparison of Emissions between 2018/19 and 2019/20

Emission Source	Scope	2018/19 Emissions (Tonnes CO <sub>2</sub> e)	2019/20 Emissions (Tonnes CO <sub>2</sub> e)	% Difference
Natural Gas Consumption	Scope 1	49,971	48,140	3.8%
Fuel for CBE Vehicle Fleet - Gasoline	Scope 1	628	628	0%
Fuel for CBE Vehicle Fleet - Diesel	Scope 1	296	296	0%
Refrigerants	Scope 1	658	1,041	9.2%
Electricity Consumption	Scope 2	49,334	43,746	12.8%
Staff Commuting	Scope 3	13,919	9,423	47.7%
Third-Party Bus Fleet - Gasoline	Scope 3	2,593	1,516	71.1%
Third-Party Bus Fleet - Diesel	Scope 3	13,029	9,331	39.6%
Third-Party Bus Fleet Propane	Scope 3	12,159	8,291	46.7%
Waste	Scope 3	536	466	20.1%
Water Consumption	Scope 3	225	161	40.2%
Business Travel	Scope 3	338	233	44.9%
Natural Gas Extraction & Processing	Scope 3	5,156	4,967	3.8%
CBE Vehicle Fleet Gasoline & Diesel Production	Scope 3	1,424	1,424	0%
<b>TOTAL</b>		<b>148,996</b>	<b>128,372</b>	<b>16.1%%</b>



#### Natural Gas (Combustion & Extraction):

The emissions associated with the combustion and extraction of natural gas decreased by approximately 4% from 2018/19 to 2019/20. Despite students and some teachers working remotely during the spring, the buildings remained in operation. At no point were buildings completely shut down, meaning that natural gas continued to be combusted for space and water heating. The 4% decrease may be the result of a reduction of natural gas from a reduced demand of hot water or food preparation in the schools, or it may be the result from increasing building efficiencies from one year to the next. The combustion emissions from the 2019/20 school year are more or less reflective of a 'normal' school year.



#### CBE Vehicle Fleet (Gasoline & Diesel):

The CBE vehicle fleet is mostly operated by maintenance and distribution staff members driving to different buildings for servicing. While students were learning remotely after March 16, 2020, these maintenance staff members continued to service buildings. There is only partial data for the 2018/19 school year available to compare against 2019/20 and an analysis of that data shows that the emissions are very similar (within 0.1%). Since this emission source was not impacted by COVID-19, the 2019/20 emissions have been assumed to be an accurate reflection of a 'typical' school year.



#### Refrigerants:

The refrigerant 'top-up' amounts increased in 2019/20 from 2018/19, however the amount of refrigerant added should not have been affected by COVID-19. The increase in refrigerant emissions may be a result of students working remotely, allowing maintenance staff to add refrigerants to the air conditioning units easily without disturbing students or classes. In general, refrigerants emissions are not significantly impacted by COVID-19 and the 2019/20 emissions are representative of a 'typical' year.



#### Electricity Consumption:

Electricity emissions decreased by 13% between 2018/19 and 2019/20. Despite buildings being operational during COVID-19 in the spring, there may have been a decrease in electricity consumption from the decrease in building occupancy. Some lights in CBE buildings are controlled by motion sensors and if students and staff were not using those rooms, electricity consumption would have decreased. Overall, some staff and maintenance members would have continued to work from the buildings and therefore the electricity consumption stayed relatively consistent with an insignificant decrease in emissions due to reduced building occupancy.



#### Third-Party Bus Fleet:

Since bus services were paused as of mid-March, the emissions from diesel, propane and gasoline buses decreased in 2019/20. Similar to staff commuting and business travel, the emissions associated with the third-party bus fleet in 2019/20 were likely ~65% of what they would be in a 'typical' school year, since COVID-19 affected the bus routes for approximately 35% of the school year in 2019/20.



#### Waste & Water Emissions:

While waste and water emissions account for a very small proportion of the GHG inventory (<0.5%), the emissions did decrease from 2018/19 to 2019/20. Since building occupancy decreased significantly in the spring of 2020, it is not unexpected that water consumption and waste tonnage decreased significantly. Despite the waste and water emissions changing 20% and 40%, respectively, the overall impact on the inventory is insignificant since these emission sources are so small relative to the total inventory. While the waste and water emissions in 2019/20 may be smaller than a 'typical' school year, the impact on the total inventory is minor.



#### Staff Commuting & Business Travel:

The emissions associated with staff commuting and business travel were largely impacted by COVID-19; for example, staff commuting decreased by over 47%. Staff commuting is calculated using the daily average commuting distance multiplied by the number of operational days in the school year. Since 2018/19 was unimpacted by COVID-19 there were 198 operational days for staff. For 2019/20, most staff were required to work remotely starting March 16, 2020 meaning there were only 132 operational days when most staff were commuting. Similarly, some business travel would have been paused starting in March 2020. This explains the 45% decrease in business travel emissions from 2018/19. Based on this comparison, it is clear that the staff commuting and business travel emissions reported for 2019/20 were lower than a 'typical' school year due to COVID-19 restrictions.

# 4 Emission Reduction Targets

## 4.1 Inventory Targets

The comparison of actual emissions from the baseline to the 2019/20 year in Table 9 illustrates that the greenhouse gas emissions have decreased by 6% compared to the baseline. The subsections in Section 3 provided the analysis for changes in emissions. Adjustment of the inventories is required to make reasonable comparisons between the inventories.

Electricity consumption accounts for the second largest emission source in the CBE's inventory. A significant proportion of the drop in electricity emissions is due to the decreasing emission intensity of the Alberta electricity grid.

One of the largest changes from the baseline inventory is the addition of five Scope 3 emission sources: natural gas extraction, diesel/gasoline/propane production, waste, water consumption and business travel. To fairly compare the inventories, the data from the baseline and 2014/15 inventory was updated to include the extraction and production emission factors and historical waste, water and business travel data.

Furthermore, during the 2019/20 inventory calculations, an error in the quantification of the staff commuting emissions from the baseline and 2014/15 inventory was identified. The staff commuting data is exported from the CBE as 'one-way' distances; however, the emissions associated with the travel were not multiplied by two, reflecting the travel to and from work. For this analysis and report, the staff commuting data from the baseline and 2014/15 inventory were adjusted to correct this error.

The baseline and 2014/15 inventory were adjusted for the additional Scope 3 emissions and error in staff commuting. The adjusted emissions, along with the 2018/19 emissions are presented below in Table 13.

Table 13: Comparison of GHG inventories

Emission Source	Scope	2010/11 Emissions (Tonnes CO <sub>2</sub> e)	2014/15 Emissions (Tonnes CO <sub>2</sub> e)	2018/19 Emissions (Tonnes CO <sub>2</sub> e)	Difference from Baseline to 2018/19 (%)	2019/20 Emissions (Tonnes CO <sub>2</sub> e)	Difference from Baseline to 2019/20 (%)
Natural Gas Consumption	Scope 1	50,304	41,222	49,971	-0.7%	48,140	-4.3%
Fuel for CBE Vehicle Fleet - Gasoline	Scope 1	647	560	628	-3.0%	628	-3.0%
Fuel for CBE Vehicle Fleet - Diesel	Scope 1	293	273	296	+0.9%	296	0.9%
Refrigerants	Scope 1	1,062	1,062	658	-38.0%	1,041	-2.0%
Electricity Consumption	Scope 2	63,038	59,858	49,334	-21.74%	43,746	-30.6%
Staff Commuting	Scope 3	12,935	11,940	13,919	7.6%	9,423	-27.2%
Third-Party Bus Fleet - Gasoline <sup>1</sup>	Scope 3	0	0	2,593	-	1,516	-
Third-Party Bus Fleet - Diesel	Scope 3	16,151	16,151	13,029	-19.3%	9,331	-42.2%
Third-Party Bus Fleet - Propane	Scope 3	587	587	12,159	+1971.3%	8,291	+1312.4%
Waste	Scope 3	759	624	536	-29.5%	446	-41.3%
Water Consumption	Scope 3	225	265	225	+0.15%	161	-28.6%
Business Travel	Scope 3	434	401	338	-22.2%	233	-46.3%
Natural Gas Extraction & Processing	Scope 3	5,217	4,275	5,156	-1.2%	4,967	-4.8%
CBE Vehicle Fleet Gasoline & Diesel Production	Scope 3	159	141	155	-2.8%	155	-2.8%
<b>TOTAL</b>		<b>151,812</b>	<b>137,359</b>	<b>148,996</b>	<b>-1.85%</b>	<b>128,372</b>	<b>-15.4%</b>

Table 13 illustrates a net reduction of 15% in adjusted greenhouse gas emissions from 2010/11 to 2019/20. This exceeds the 12% reduction target set in the Sustainability Framework and illustrates how the CBE can continue to reduce emissions as a growing organization. For example, fleet vehicle emissions decreased while the number of vehicles in the fleet increased from 163 to 178. Similarly, the natural gas and electricity consumption decreased by 5% and 31%, while the CBE opened 22 new schools that were not included in the baseline emissions inventory.

Table 13 also shows a comparison of adjusted baseline emissions against the 2018/19 school year, which was not affected by COVID-19. There was a net reduction of almost 2% in emissions, meaning that if 2018/19 was used for the inventory, the Sustainability Framework target would not have been met. The difference between 2018/19 and 2019/20 inventory can almost wholly be attributed to an increase in natural gas consumption, electricity consumption and third-party bus fleet emissions. Natural gas and electricity emissions may have been impacted by COVID-19 during 2019/20 as there would have been less people in buildings and therefore less hot water and electricity may have been required. However, this change from 2018/19 to 2019/20 may also be attributed, in part, to the implementation of energy efficiency projects. The decrease in third-party bus fleet emissions from 2018/19 to 2019/20 is very likely a result of COVID-19 since the bus fleet stopped transporting students to schools in March 2020.

While the actual emissions are represented in Table 9, arguably a more relevant comparison is provided in Table 13 since the emission sources and calculation methods are consistent across inventories. Referencing the adjusted emissions inventories presented in Table 13, the emission target was achieved and emissions were reduced by 15% from the baseline set in 2010/11. However, if 2018/19 had been selected as the target year, the Sustainability Framework target would not have been met as emissions were only reduced by 2% from the baseline.

## 4.2 Energy Consumption Targets

In addition to setting targets to reduce absolute emissions in the GHG inventory by 2020, the CBE announced energy utilization intensity targets for elementary, and middle and senior high schools by 2020 in their Sustainability Framework. The targets are as follows:

- Less than 0.92 GJ/m<sup>2</sup> for elementary schools
- Less than 1.08 GJ/m<sup>2</sup> for middle/senior high schools

An analysis was completed for all schools within the CBE operational control and in 2020, 85% of schools achieved their energy intensity target, with only 34 schools not meeting the target.

For elementary schools, the average energy intensity was 0.75 GJ/m<sup>2</sup>, with 29 schools not meeting the target of 0.92 GJ/m<sup>2</sup>. Of the schools that did not meet the target, the average energy intensity was 1.08 GJ/m<sup>2</sup>. For middle/high schools, the average energy intensity was 0.68 GJ/m<sup>2</sup>, with only 5 schools not meeting the target. Of the schools that did not meet the target, the average intensity was 1.22 GJ/m<sup>2</sup>.

The majority of schools achieved the energy consumption targets, with the average for each school type being well below the targets, indicating that energy reduction initiatives are working as intended and energy consumption is decreasing in the CBE's schools.

## 4.3 Water Consumption Targets

A water consumption target was also set in the Sustainability Framework to reduce water consumption to 4 m<sup>3</sup> per student by 2020.

Water consumption for the 2019/20 school year was tabulated at 352,608 m<sup>3</sup>, equating to approximately 2.91 m<sup>3</sup> per student. As was discussed in Section 3.4, water consumption likely decreased in 2019/20 due to COVID-19. Using 2018/19 as a comparison year, the total consumption was 494,405 m<sup>3</sup>, equating to 4.08 m<sup>3</sup> per student. Based on the 2019/20 data, the target of reducing water consumption was achieved and even using 2018/19 data to compensate for the possible effects of COVID-19, the resulting water consumption per student was still very close to the target.

# 5 Summary and Conclusion

In 2014 the Calgary Board of Education published a Sustainability Framework outlining a number of sustainability targets for 2020. These targets were updated in 2018 and include a reduction of greenhouse gas emissions of 12% from a baseline in 2010/11, energy consumption intensity targets based on school type and a reduction of water consumption per student. The baseline greenhouse gas inventory was developed using the 2010/11 school year, and an update to the inventory, to monitor progress, was completed in 2014/15. The purpose of this report was to update the CBE's greenhouse gas inventory for the 2019/20 school year to determine if the targets set in the Sustainability Framework were achieved.

To quantify relevant emission sources within the greenhouse gas inventory, ISO 14064-1 and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" were referenced to determine the operational boundary and emission scopes. Scope 1 and 2 emissions, which are direct emissions within operational control of the reporting entity and indirect emissions from purchased energy, are required to be included in the inventory. Scope 3 emissions, which are indirect emissions linked to the reporting entity's operations, are less defined and often Scope 3 emission sources are selected based on their significance or influence within the inventory. The CBE participated in a facilitated workshop exercise to identify Scope 3 emission sources, and determine which of these sources to include in the inventory.

A comparison of the actual (unadjusted) 2010/11 baseline inventory and the 2019/20 inventory shows a 6% decrease in emissions. However, the actual (unadjusted) baseline inventory does not include certain emission sources that were added in the 2019/20 inventory. To consistently compare inventories across the years, the baseline and 2014/15 inventory were adjusted for the Scope 3 emission sources that were added in 2019/20. Comparing these adjusted emissions, the 2019/20 inventory shows a reduction in emissions of 15% compared to the 2010/11 baseline, exceeding the emission reduction target set in the Sustainability Framework. This reduction is particularly notable when the organization's growth is taken into consideration. The number of fleet vehicles increased from 163 to 178, 22 new schools were opened between 2011 and 2019, and the number of staff increased from 10,193 to 10,584. The substantial reduction in emissions during this period of growth demonstrates that the CBE can continue to reduce emissions while expanding operations.

To better understand the changes in emissions, the building operations emissions were normalized against student population and floor area; and in both cases, the emissions intensity decreased by 16%, illustrating that emissions from building operations are decreasing on an individual school level. Emissions from building operations were also grouped by building age to determine if a correlation existed between emissions and building vintage. The data illustrated that while there are some apparent reductions in emissions for newer schools, there is not a strong relationship between building age and emissions.

During the 2019/20 school year, the World Health Organization (WHO) declared COVID-19 a global pandemic and the CBE began remote working and learning starting March 16, 2020. A greenhouse gas inventory was completed for the 2018/19 school year for comparison to the 2019/20 year in order to evaluate the potential impacts of COVID-19. While it was determined that COVID-19 likely affected a handful of emission sources, the most significantly impacted sources were staff commuting, business travel and third-party bus fleets since staff and students were working remotely for the last few months of the school year. Comparing the adjusted baseline inventory, including the additional Scope 3 emission sources, to the 2018/19 school year only results in a 2% decrease in emissions. Therefore, if the CBE had selected the 2018/19 school year to perform the GHG inventory, the Sustainability Framework target would not have been met.

The CBE had also set targets around energy consumption and 85% of schools achieved this target, with the average energy intensity for each school type falling well below the targets. Furthermore, electricity consumption decreased by 27% from 2014/15, despite building 22 new schools. This indicates that energy reduction initiatives are working as intended and energy consumption is decreasing for CBE schools. However, it should be noted that the total natural gas consumption for all CBE buildings increased by 16% from the 2014/15 inventory. The CBE should continue to focus its efforts on reducing the natural gas consumption within its schools and buildings.

COVID-19 significantly decreased third-party bus fleet emissions for 2019/20 and the emission source makes up almost 20% of the entire inventory for the 2018/19 school year. Despite this emission source being categorized in Scope 3, the CBE should seek ways to influence or partner with bus service providers to decrease the bus fleet emissions due to the large impact these emissions have on the total inventory.

The CBE achieved the Sustainability Framework target of reducing emissions by 12% from 2010/11 for the 2019/20 school year, however the target would not have been met using the 2018/19 inventory. This illustrates that there are many further steps the CBE should take to continue to decrease emissions, especially as the organization continues to grow. Of the CBE inventory, natural gas, electricity and third-party bus emissions account for over 85% of the inventory and the CBE should focus future initiatives on reducing those emission sources. In addition to future initiatives, the CBE should begin to gather data on other potential Scope 3 emission sources, such as paper consumption, student commuting and business air travel. This data can be integrated into future inventories to enable tracking over time and increase the completeness and accuracy of the inventory.

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# Appendix A

Table A: Scope 3 emissions sources and rationale for including/excluding from the GHG inventory

Scope 3 Emission Source	Description	Included in Baseline & 2014/15 inventory?	Selected to be included in 2019/20 inventory?	Rationale
Staff Commuting	Emissions associated with CBE staff commuting to and from their workplace.	Yes	Yes	The data to quantify this emission source is readily available as the CBE has compiled the average distance each staff member travels to and from their workplace. Based on the baseline and previous inventory, this emission source accounts for approximately 5% of the total emissions, making this a significant emission source. The quantification is based on the assumption that each staff member travels the average distance and drives a standard small vehicle to work. Based on the data availability, significance and to maintain consistency with the previous inventory and baseline, this emission source has been included in the 2019/20 inventory update.
Gasoline, Diesel & Propane Bus Fleet	Combustion emissions associated with the third-party school bus fleet that transports students to and from schools.	Yes	Yes	The data to quantify the combustion emissions from the school bus fleet is readily available as the CBE has estimated the volume of gasoline, diesel and propane combusted from each school bus supplier. The quantification data from the baseline and previous inventory show that this emission source accounts for over 10% of the total emissions, making this a significant emission source that should be included in the 2019/20 inventory.

Scope 3 Emission Source	Description	Included in Baseline & 2014/15 inventory?	Selected to be included in 2019/20 inventory?	Rationale
Gasoline, Diesel & Propane Bus Fleet Production Emissions	Upstream production emissions associated with the third-party school bus fleet.	No	Yes	In addition to the combustion emissions associated with the third-party school bus fleet, upstream emissions generated from the extraction and production of gasoline and diesel can be included in the Scope 3 category. These emissions were not included in the baseline or the previous inventory. The emissions are calculated using the quantity of gasoline and diesel combusted and the respective production emission factors published in the Alberta Carbon Offset Emission Factors Handbook. For the 2019/20 inventory, this emission source accounts for approximately 1.5% of the total emissions.
CBE Vehicle Fleet Production Emissions	Emissions associated with the upstream production of gasoline and diesel consumed in the CBE vehicle fleet	Yes, but captured in Scope 1.	Yes	The upstream production emissions associated with diesel and gasoline consumption in the CBE vehicle fleet were included in the baseline and 2014/15 inventory; however, they were captured in the Scope 1 emissions. Since these emissions are representative of the production of gasoline and diesel and this does not occur within the CBE's organizational boundary, these emissions should be included in the Scope 3 category, rather than Scope 1. These emissions can be quantified by multiplying the volume of diesel and gasoline combusted by the respective production emission factors published in the Alberta Carbon Offset Emission Factors Handbook. This emission source does not have a significant impact on the inventory, and accounts for less than 0.5% of the total emissions for the 2019/20 year; however, reducing the diesel and gasoline consumption for the CBE vehicle fleet can be fairly easily influenced by the CBE and therefore, this emission source has been included in the inventory.

Scope 3 Emission Source	Description	Included in Baseline & 2014/15 inventory?	Selected to be included in 2019/20 inventory?	Rationale
Natural Gas Extraction & Processing	Emissions associated with the upstream extraction and processing of the natural gas combusted as part of the Scope 1 emissions.	No	Yes	The upstream emissions associated with the production and extraction of the natural gas combusted in CBE buildings are not direct emissions and can be included in Scope 3. These emissions were not included in the baseline or previous inventory; however, they account for approximately 3.5% of the total emissions for the 2019/20 school year. The emissions are calculated using the quantity of natural gas combusted in Scope 1 and the extraction and processing emission factors published in the Alberta Carbon Offset Emission Factors Handbook. Given the magnitude of the emissions and the fact that these emissions can be directly influenced by decreasing natural gas consumption in CBE buildings, the CBE has included this emission source in the 2019/20 inventory.
Waste (including landfill waste, recycling and organic material)	Emissions associated from the landfill, recycling and organic material waste generated at CBE buildings.	No	Yes	The CBE has a robust waste management tracking system where all landfill, organic, and recycling waste is tracked for each building. This data is available from 2010 to 2020 and can therefore be applied retrospectively to the baseline and previous inventory for comparison purposes. Although the magnitude is not very significant (<1% of the inventory), waste emissions are relatively influenceable by the CBE through waste programs at schools and student initiatives. On this basis, this emission source has been included in the quantification for the 2019/20 year.

Scope 3 Emission Source	Description	Included in Baseline & 2014/15 inventory?	Selected to be included in 2019/20 inventory?	Rationale
Water Consumption	Emissions associated from the water consumed at CBE buildings.	No	Yes	Water consumption data is available for the CBE through the utility company and this data can be exported from 2010 to 2020, allowing the baseline and previous inventory to be compared equally. This emission source is not significant (<1% of the inventory), however similar to waste emissions, this can be influenced to a degree by the CBE through initiatives in their buildings. Due to the availability of data and level of influence, this emission source has been included in the 2019/20 inventory.
Business Travel	Emissions associated with CBE staff travelling.	No	Yes	Business travel for CBE staff includes vehicle travel, for business trips, or maintenance and specialized staff that work at multiple locations throughout the day. For the staff that work at multiple locations, the first and last travel of the day is counted as commuting, however further trips would be included in this emission source. The CBE has tracked the mileage data for vehicle travel since 2015/16, allowing the emissions to be back calculated to 2015/16 which would likely be a reasonable estimate for the 2014/15 school year. There is no data available for the baseline, however given that the data is available, this emission source has been included in the 2019/20 inventory.
Paper Purchased	Emissions from the quantity of paper purchased, including paper towel and other paper products.	No	No	The amount of paper and paper products purchased by the CBE is not an available dataset from the CBE and estimating the amount used would be difficult, especially retroactively to the baseline. This emission source, has therefore, not been included in the 2019/20 inventory. Given that the CBE operates in a school setting, this emission source may be significant. It is therefore recommended that the activity data associated with this emission source be tracked (quantity of paper and paper products consumed, along with supplier information) so this emission source can be quantified in the future.

Scope 3 Emission Source	Description	Included in Baseline & 2014/15 inventory?	Selected to be included in 2019/20 inventory?	Rationale
Student Commuting (Excluding bus fleet commuting)	Emissions from student commuting to their schools. The third-party school bus fleet is only for elementary students and therefore, emissions from the commuting of middle and high school students would be included in this category.	No	No	Emissions associated with student transportation using third-party buses captured in the Scope 3 category are only relevant to elementary students. Students in middle and high school commute to school by their own means, which may include walking, biking, public transit or driving in personal vehicles. There is currently no data available to indicate how far and by what method students are commuting to their respective schools. The emissions from student commuting are therefore not included in the GHG inventory. Given that approximately half of CBE students are in elementary school and the third-party bus fleet accounts for over 20% of the GHG inventory, it is recommended that the CBE perform an analysis of student commuting for middle and high school students. This could be achieved through a survey at all or at a sample of schools. Not only may this emission source be significant, but it is also within the scope of influence for the CBE, as low-carbon commuting alternatives could be promoted within schools. A future opportunity for the CBE would be to gather further data to assess the potential significance and magnitude of this emission source and determine if a more detailed analysis should be performed to estimate emissions from this source.

# Appendix B

Table B below describes recommendations for the Calgary Board of Education for any data sources that were identified to have a medium or high level of uncertainty. See Table 3 in the Report for a full list of data sources used in the greenhouse gas inventory.

Table B: Future Data Capture Recommendations

Emission Source	Scope	Data Source	Level of Uncertainty	Future Data Capture Recommendations
Refrigerants	Scope 1	Refrigerant additions from HVAC companies	Medium	Invoices or volumes could be recorded internally in a CBE data system when the refrigerant is delivered to the building, rather than having to retroactively compile all volumes at the end of the reporting period.
Staff Commuting	Scope 3	Estimation based on distance staff live from their workplace	High	The CBE could survey a portion of staff or all staff to better estimate how staff commute to their workplace and in what type of vehicle.
Third-Party Bus Fleet	Scope 3	Based on an estimation of the bus fuel economy (litres/day), and the number of days the bus was used to transport students. The fuel economy is based on historical data gathered by the CBE.	Medium	The most accurate data source for emissions calculations would come directly from fuel volumes provided by the service providers. If this data is not possible, a more accurate data source would be a record of actual kilometres driven by the buses.
Waste <sup>1</sup>	Scope 3	CBE summary sheets for each waste type from waste management services	Medium	Waste emissions could be more accurate with data provided by the waste management service on the actual number and size of waste pickups from each CBE building.

# Sustainability Framework 2030

The Calgary Board of Education's Commitment to Sustainability



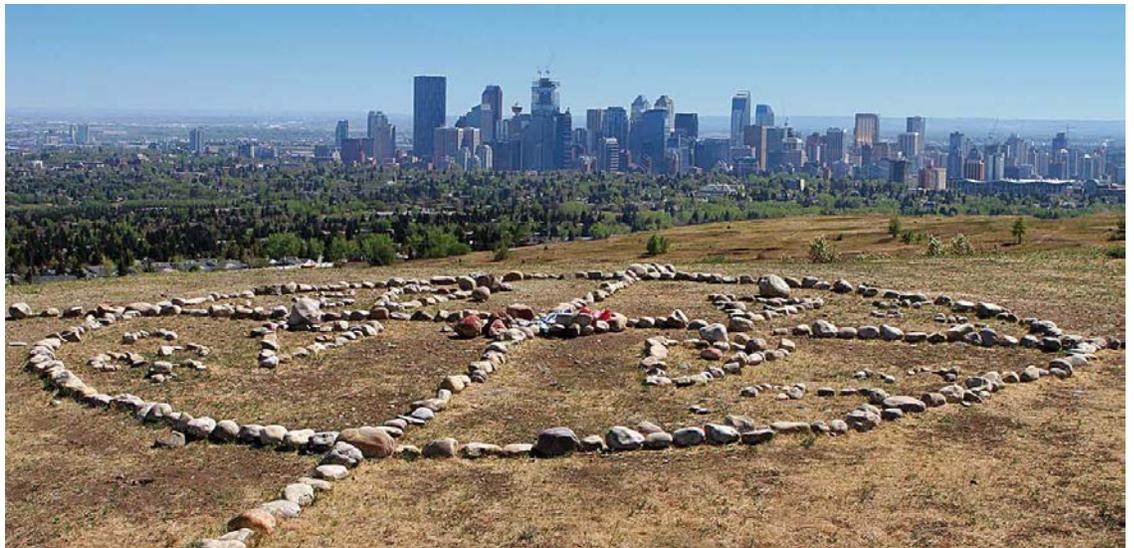
learning | as unique | as every student



Calgary Board of Education

# Acknowledging the land where we gather

We would like to acknowledge the traditional territories and oral practices of the Blackfoot Nations, which includes the Siksika, the Piikani, and the Kainai. We also acknowledge the Tsuut'ina and Stoney Nakoda First Nations, the Métis Nation (Region 3), and all people who make their homes in the Treaty 7 region of Southern Alberta.



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The Sustainability Framework is guided by CBE's Mission and Values

#### Mission

Each student in keeping with their individual abilities and gifts will complete high school with a foundation of learning necessary to thrive in life, work and continued learning.

#### Values

Students come first. Learning is our central purpose.

Public education serves the common good.

## Overview

The Calgary Board of Education (CBE) has a considerable legacy of leadership and success in environmental stewardship and education on both an individual school level and at a system level.

The CBE Sustainability Framework 2030, guided by the CBE's Mission and Values, describes the strategic framework that will enable the CBE to continue being a leader in sustainability planning, education, and action.

## Goals

The Calgary Board of Education will:

- support the development of engaged citizens who understand their responsibility in contributing to a socially, environmentally and economically sustainable society,
- and
- be a leader in sustainable practices and behaviours.

# Understanding Sustainability

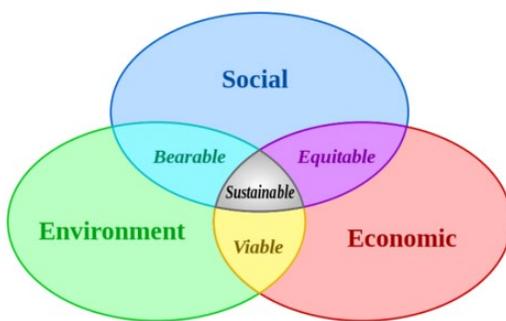
In the broadest sense, sustainability means that things can endure, 'sustain' themselves, keep up or keep going into the future. For the purposes of this framework, we are utilizing the definition for sustainable development found within *Our Common Future: The Report of the World Commission on Environment and Development*, commonly known as the *Brundtland Commission Report*, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

The Sustainable Development Goals, adopted by all UN Member States in 2015, are the blueprint to achieve a better and more sustainable future for all. There are 17 goals in all that address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice.

Most uses of and references to sustainability emphasize the concept's simultaneous economic, environmental, and social dimensions. For example, businesses talk about the triple bottom line: people, planet, and profits (or, alternately, human capital, natural capital, and financial capital). Likewise, sustainability educators commonly refer to the Three E's of sustainability: economy, ecology, and equity.

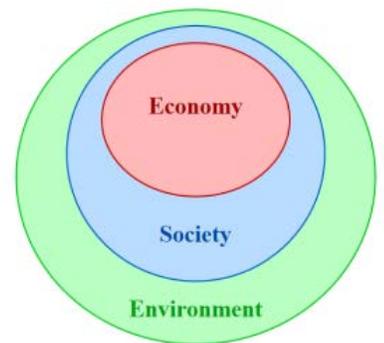
CBE's goals, to be a leader in sustainable practices and behaviours as well as engaging staff and students towards the achievement of a sustainable future is consistent with Canada's 2030 Agenda National Strategy. Within this strategy, it is recognized that "achieve[ment] of the SDGs requires leadership at all levels, including the federal government, the provinces and territories, municipalities and national Indigenous organizations. Stakeholders, particularly from civil society, underscored the fact that action needs to be community-driven and supported by efforts to enable local contributions to sustainable development."

Sustainability, and sustainable development, is about developing an ecologically aware, socially just, and economically responsible society.



Popular representations of sustainability also underscore the concept's three dimensions. A common illustration of sustainability is the diagram at left depicting three overlapping circles representing environmental needs, economic needs, and social needs. The area where the circles overlap, and all three needs are met, is the area of sustainability.

Another popular representation is the diagram at right in which sustainability is depicted as three concentric circles to further emphasize the interdependence of the three dimensions – the economic existing within the social/cultural, and both existing within the environment.



CBE would further expand these models to identify the role of CBE's goals and education as responsible and active participants in contributing to the achievement of the UN Sustainable Development Goals.

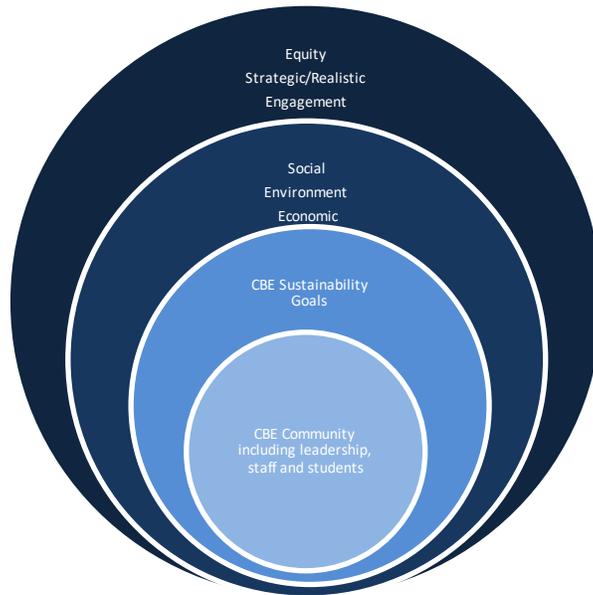
# Sustainability and the CBE

K-12 school districts play an important role in shaping the path to a healthy, just, and sustainable future by preparing students to take their place as lifelong learners and citizens who make a significant contribution within a complex, changing world. As participants in the current environment, CBE is accountable and responsible to many stakeholders through legislative and regulated requirements.

CBE has a responsibility to its students – what they are taught, how they are taught, and the physical environment in which they learn all shape their ability to provide answers to the complex political, technological, and sociological challenges of reaching a just and sustainable future<sup>1</sup>.

CBE has a responsibility to its community – as the second largest landowner and the largest education provider in the City of Calgary, the CBE commits to work together with other community partners toward the social, economic, and environmental sustainability goals set out in the Climate Strategy.

CBE has a responsibility to the province – direction for education is provided through the mission, vision and values within the preamble to the *Education Act*. Therefore, CBE has a responsibility to educate and support students to become engaged thinkers and ethical citizens who work with an entrepreneurial spirit as they engage in society. Qualities such as thinking critically and creatively, respect, teamwork, resilience, adaptability, risk-taking and bold decision-making support students to demonstrate democratic ideals and face challenges<sup>2</sup>. These are all the qualities and abilities required of current and future citizens to address the complex challenges of reaching a healthy, just and sustainable future.



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<sup>1</sup>from *University of Calgary Sustainability Plan*

<sup>2</sup>from *Education Act, S.A. 2012, c E-0.3*.

# What the Community Said

Staff, students, parents, and the public provided feedback through engagement sessions, an online survey, and Idea Boards on what being a leader in sustainable practices and behaviours will mean in the future, and what work we still need to do. Here are some of the high-level themes and actions that emerged:

## Governance

- Each school should have a student-led environmental committee
- The school district should have a sustainability advisory committee for shared accountability across the organization
- Wider adoption of EcoSchools Certification program<sup>3</sup>

## Waste

- Work on achieving zero waste by following the 3Rs (reduce, reuse, recycle)
- Educate staff and students on how to reduce, reuse and properly recycle
- Focus on food waste reduction

## Outdoor gardens and learning spaces

- Develop outdoor learning spaces, food gardens, rain gardens at every school
- Staff and students should learn about, develop, and support local food production

## Energy efficiency and renewable energy

- Improve energy efficiency of school buildings through retrofits
- Scale up and expand solar for schools

## Reduce GHG Emissions

- Work on achieving zero carbon buildings through emissions reduction and decarbonization

## Sustainability education and Climate Change education

- Create more opportunities for students to learn, share, and take action on sustainability and climate change
- Support teacher professional development, opportunities to collaborate and share ideas on the topics of sustainability and climate change

## Evaluate mobility strategies and options

- Electric school buses
- Active transportation

## Schools are hubs of community learning, interaction, leadership, innovation, and best practice

- Engage parent community and corporate partners
- Staff and students should have a connection to community and the outdoors

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<sup>3</sup> *EcoSchools Canada* is the largest bilingual, voluntary environmental certification program for K-12 schools in Canada. For more information visit [ecoschools.ca](http://ecoschools.ca)

# 2030 Targets

The CBE Sustainability Framework 2030 is aligned with the Results policies, the *Education Plan* and the Alberta Government *Education Act*. All of these documents guide our work and connect each CBE employee to our desired outcome of student success.

These are the CBE's sustainability targets for the year 2030:

## Learning Excellence

- Students have access to learning opportunities in environmental, energy, and climate education in alignment with the Programs of Study.
- All schools provide opportunities to students, educators, support staff and facility operators to advance environmental sustainability initiatives.
- More than 50 per cent of CBE schools are certified as EcoSchools.
- Students and teachers work together to embed sustainability into classroom learning and practices.

## People Excellence

- CBE dedicates resources to sustainability coordination and planning.
- CBE aligns policies with sustainability goals and targets, seeking advice from sustainability experts to participate in and advise on policy development
- CBE has an active district-level sustainability advisory committee, with representatives from all areas of the organization, for shared accountability across the organization.
- Professional development resources and opportunities are available to staff, to better equip them with the knowledge necessary to achieve sustainability targets.
- Professional development resources and opportunities are available to teachers, to better the environment, energy, and climate education for their students.

## Collaborative Partnerships

- The CBE has formal and informal partnership(s) with the local community, including government, non-profit organizations, and other entities, to co-develop climate solutions and work together to advance sustainability within the community.

## Strategic Resourcing

### *Building Design, Construction, Operations and Maintenance*

- The CBE builds, operates, and maintains its buildings to ensure resilience to extreme weather events and chronic climate changes.
- All new construction is built to a net zero standard.
- GHG emissions are reduced by 50 per cent (from 2010-11 levels) to support climate change mitigation, with a goal of net zero by 2050. This is in line with the federal target for GHG emissions reduction.
- The CBE manages and/or reduces energy consumption to the following energy utilization intensity targets:
  - 0.45 GJ/m<sup>2</sup> for elementary schools; and
  - 0.55 GJ/m<sup>2</sup> for middle/junior and senior high schools
- The CBE manages and/or reduces water consumption to 2m<sup>3</sup> per student per year.
- The CBE reduces waste going to landfill by 90 per cent (from 2007-08 levels) with a goal of zero waste by 2050. This is in line with the municipal target for zero waste.
- Increase school energy generation from renewable energy systems.
- Every school has access to an outdoor learning space to connect staff and students to the land and fosters a love of nature.

### *Purchasing*

- The CBE has sustainable purchasing guidelines that consider: conservation of energy and resources, promoting pollution prevention and waste reduction and protecting human health and well-being, for all procurement opportunities and contracts.

### *Transportation*

- The CBE has an anti-idling policy on school grounds.
- The CBE promotes active transportation methods and routes to school.
- The CBE promotes and supports the use of low or no emission busing for student transportation.

## report to Board of Trustees

## Construction Projects Status Report

Date	April 26, 2022
Meeting Type	Regular Meeting, Public Agenda
To	Board of Trustees
From	Christopher Usih Chief Superintendent of Schools
Purpose	Information
Originator	Dany Breton, Superintendent, Facilities and Environmental Services
Governance Policy Reference	Operational Expectations OE-7: Communication With and Support for the Board OE-9: Facilities
Resource Person(s)	Sanjeev Sharma, Director, Facility Projects Erin Hafichuk, Manager, Capital Planning & Development David Jaimes, Project Manager, Facility Projects

### 1 | Recommendation

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It is recommended:

- This report is being provided for information for the Board. No decision is required at this time.

### 2 | Issue

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The Chief Superintendent is required to provide the Board of Trustees with an update regarding the status of new and replacement facilities under development or construction.



### 3 | Background

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The Calgary Board of Education (CBE) is currently undertaking 8 new school construction projects.

On March 21, 2017, the Alberta Government announced the approval of three new elementary schools for Dr. Freda Miller School (Evergreen), Sibylla Kiddle School (Cranston), and Northern Lights School (Coventry Hills/Country Hills). Construction for the three new schools is complete with landscaping and electrical controls deficiencies outstanding, with all three schools opening on September 8, 2020.

On March 23, 2018, the Alberta Government announced the approval of an elementary school for Mahogany and a K-9 school for Skyview Ranch. They also provided design approval for a middle school in Auburn Bay and a new north high school to be located in Coventry Hills.

On November 1, 2019, the Government of Alberta approved full construction funding for a middle school in Auburn Bay, and a new north high school in Coventry Hills. The Government of Alberta also announced the approval of a second elementary school for Auburn Bay.

On April 14, 2020, the Government of Alberta announced that the second elementary school in Auburn Bay will be procured through a design-build contract.

On March 4, 2022, the Government of Alberta announced the approval of a middle school for Evanston. No further information is available at the time of this report.

### 4 | Analysis

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Information on the current status of the projects under development and being administered by the CBE and Alberta Infrastructure is provided in **Attachment I**.

The locations of the various new school and modernization capital projects under development are shown in **Attachment II**.

There are two Project Steering Committees set up for the current school projects as follows:

- New Elementary/Middle Schools (Mahogany, Skyview Ranch, Auburn Bay)
- North Calgary HS

### 5 | Conclusion

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This report provides the current update on the status of new and modernized facilities under development or construction by the CBE.

It is provided to the Board of Trustees as monitoring information in compliance with Operational Expectation 7: Communication With and Support for the Board.



CHRISTOPHER USIH  
CHIEF SUPERINTENDENT OF SCHOOLS

**ATTACHMENTS**

Attachment I: New/Modernized Facility Construction Status  
Attachment II: Project Location Map  
Attachment III: Construction Photos

**GLOSSARY – Developed by the Board of Trustees**

Board: Board of Trustees

Governance Culture: The Board defined its own work and how it will be carried out. These policies clearly state the expectations the Board has for individual and collective behaviour.

Board/Chief Superintendent Relationship: The Board defined in policy how authority is delegated to its only point of connection – the Chief Superintendent – and how the Chief Superintendent's performance will be evaluated.

Operational Expectations: These policies define both the nonnegotiable expectations and the clear boundaries within which the Chief Superintendent and staff must operate. They articulate the actions and decisions the Board would find either absolutely necessary or totally unacceptable.

Results: These are our statements of outcomes for each student in our district. The Results policies become the Chief Superintendent's and the organization's performance targets and form the basis for judging organization and Chief Superintendent's performance.

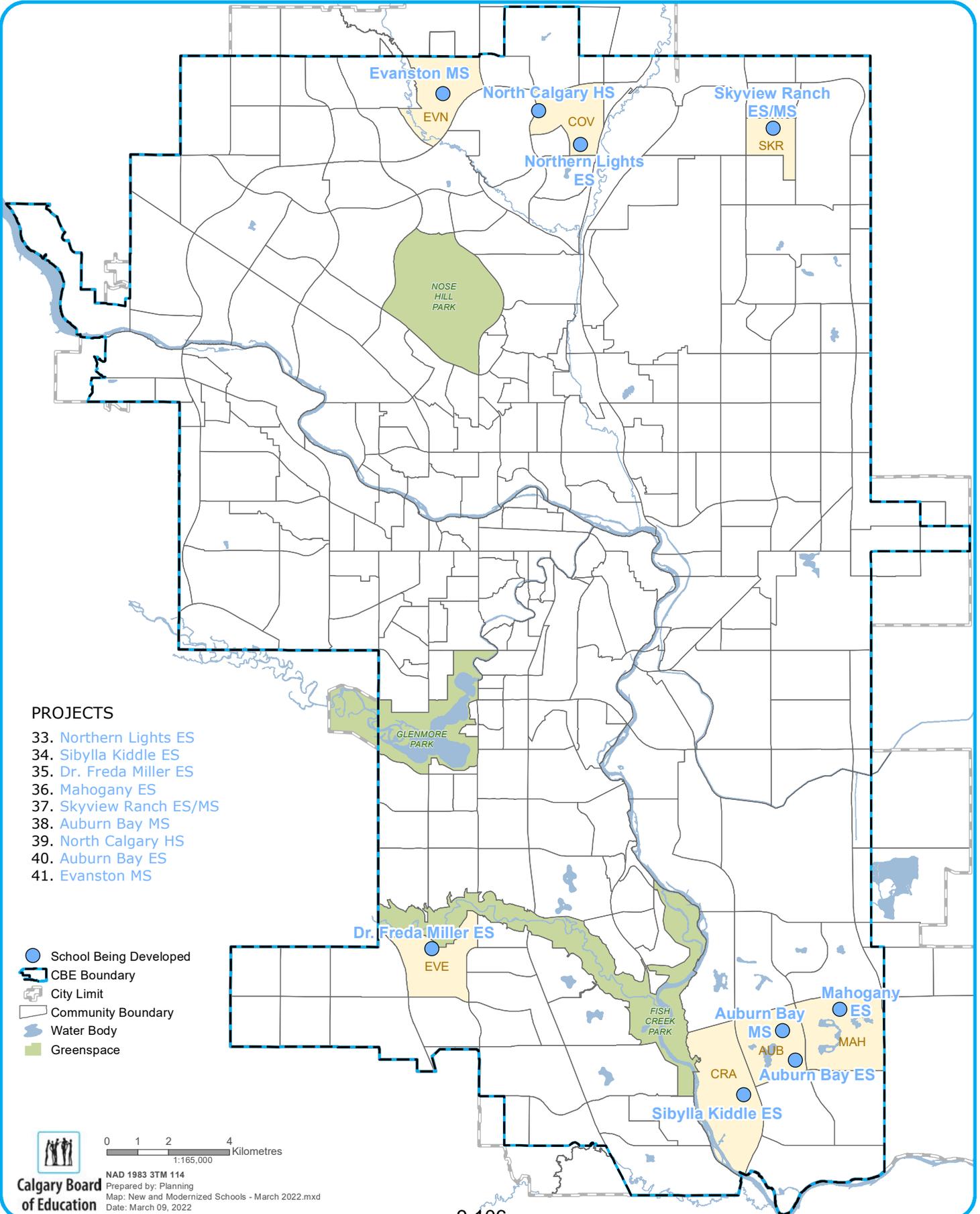
**CALGARY BOARD OF EDUCATION  
NEW/MODERNIZED FACILITY CONSTRUCTION STATUS  
April 26, 2022**

Building	Opening Date	Notes/Comments	
33. Northern Lights School (Coventry Hills) Grades K-4 Capacity 600 students	Sept. 8, 2020	Design and specifications	100%
		Construction Award	100%
		Construction Progress	99%
		Note: Project Managed by Alberta Infrastructure. School complete; warranty issue remediation underway. Landscaping and lighting controls outstanding	
34. Sibylla Kiddle School (Cranston) Grades K-4 Capacity 600 students	Sept. 8 2020	Design and specifications	100%
		Construction Award	100%
		Construction Progress	99%
		Note: Project Managed by Alberta Infrastructure. School complete; warranty issue remediation underway. Landscaping and lighting controls outstanding	
35. Dr. Freda Miller School (Evergreen) Grades K-4 Capacity 600 students	Sept. 8 2020	Design and specifications	100%
		Construction Award	100%
		Construction Progress	99%
		Note: Project Managed by Alberta Infrastructure. School complete; warranty issue remediation underway. Landscaping and lighting controls outstanding.	
36. Mahogany School Grades K-4 Capacity 600 students	Sept. 1 2022	Design and Specifications	100%
		Construction Progress	85%
		Note: Project managed by Alberta Infrastructure. Construction in progress; foundation and backfill complete, steel erection complete, building enclosure complete, mechanical and electrical ongoing, interior finishes ongoing, landscaping complete.	
37. Skyview Ranch ES/MS Grades K-9 Capacity 900 students	Sept.1 2022	Design and Specifications	100%
		Construction Award	100%
		Construction Progress	50%
		Note: Project managed by Alberta Infrastructure. Foundation complete, structural steel complete, roofing underway, building envelope underway, masonry veneer ongoing, slab pours complete, interior framing ongoing, mechanical and electrical ongoing. Project being monitored closely for possible delays that could impact the opening date	

**CALGARY BOARD OF EDUCATION  
NEW/MODERNIZED FACILITY CONSTRUCTION STATUS  
April 26, 2022**

Building	Opening Date	Notes/Comments	
38. Auburn Bay MS Grades 5-9 Capacity 900 students	Sept. 1 2022	Design and Specifications	100%
		Construction Progress	70%
		Note: Project managed by Alberta Infrastructure. Construction in progress, foundation and superstructure complete, masonry ongoing, roofing ongoing, exterior framing ongoing, mechanical and electrical ongoing, window installation started, interior finishes ongoing.	
39. North Calgary HS Grades 10-12 Capacity 1800 students	TBD	Design and Specifications	100%
		Construction Award	100%
		Construction Progress	55%
		Note: Project managed by Alberta Infrastructure. Foundation complete, masonry and structural steel erection underway, retaining walls completed, parking lot complete, HVAC and sprinkler installation started, interior framing underway, building envelope underway, window installation started.	
40. Auburn Bay Elementary School Grades K-4 Capacity 600 students	Sept. 1 2022	Design Build - Basis of Design/Bid package	100%
		Construction Award	100%
		Design and Specifications	100%
		Construction Progress	75%
		Note: Project managed by Alberta Infrastructure. Foundation and superstructure complete, exterior and interior framing ongoing, roofing ongoing, electrical and mechanical interior work ongoing, boarding and AVB install ongoing, modular classrooms tie-in ongoing.	

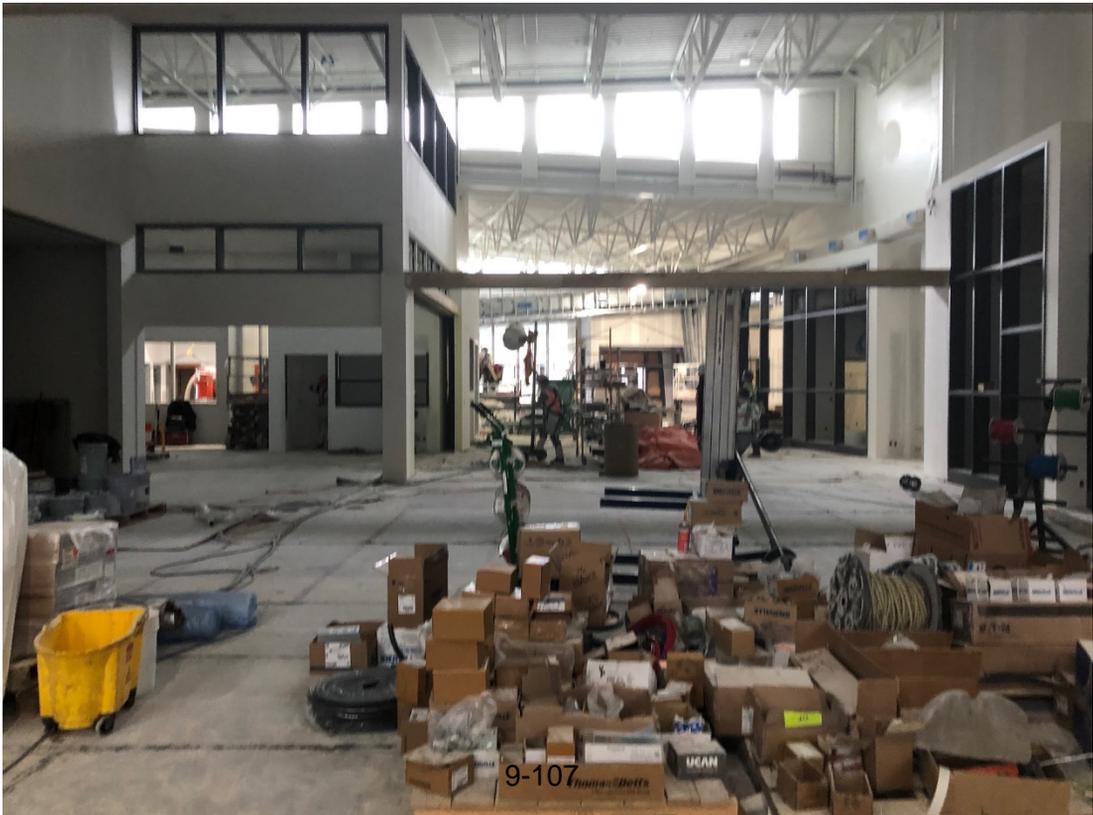
# New and Modernized Schools As of March 2022



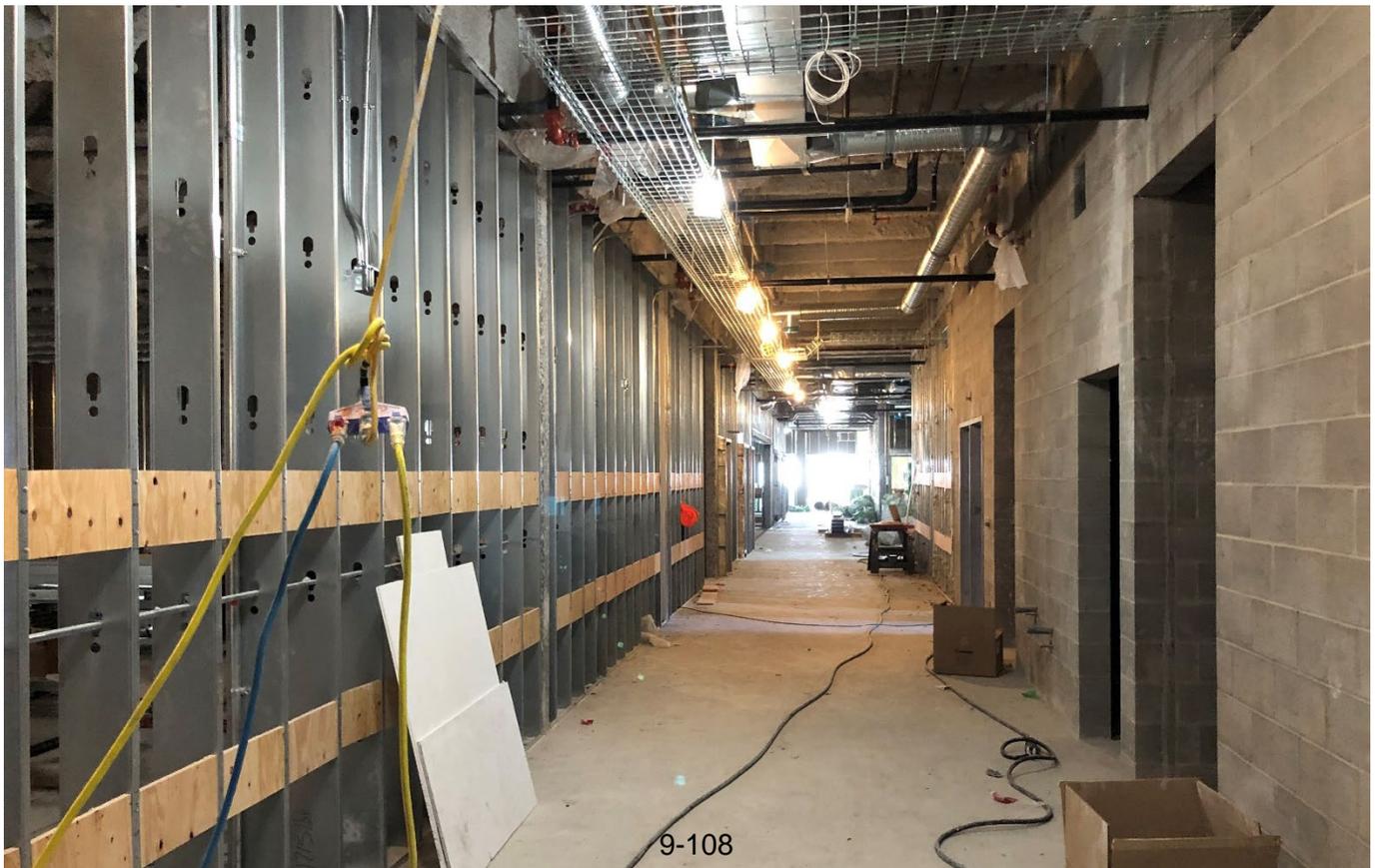
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**Calgary Board of Education**  
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Prepared by: Planning  
Map: New and Modernized Schools - March 2022.mxd  
Date: March 09, 2022

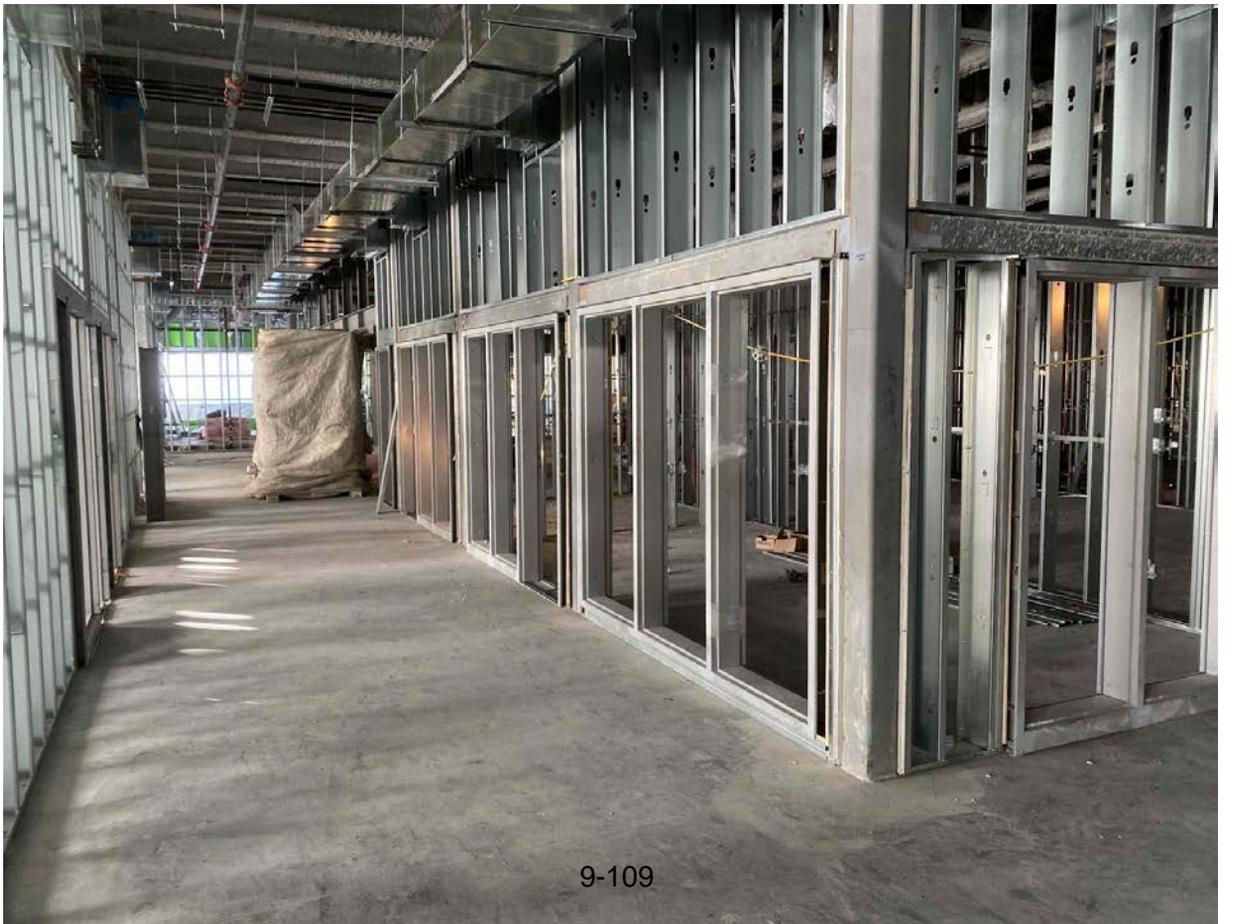
Mahogany Elementary School



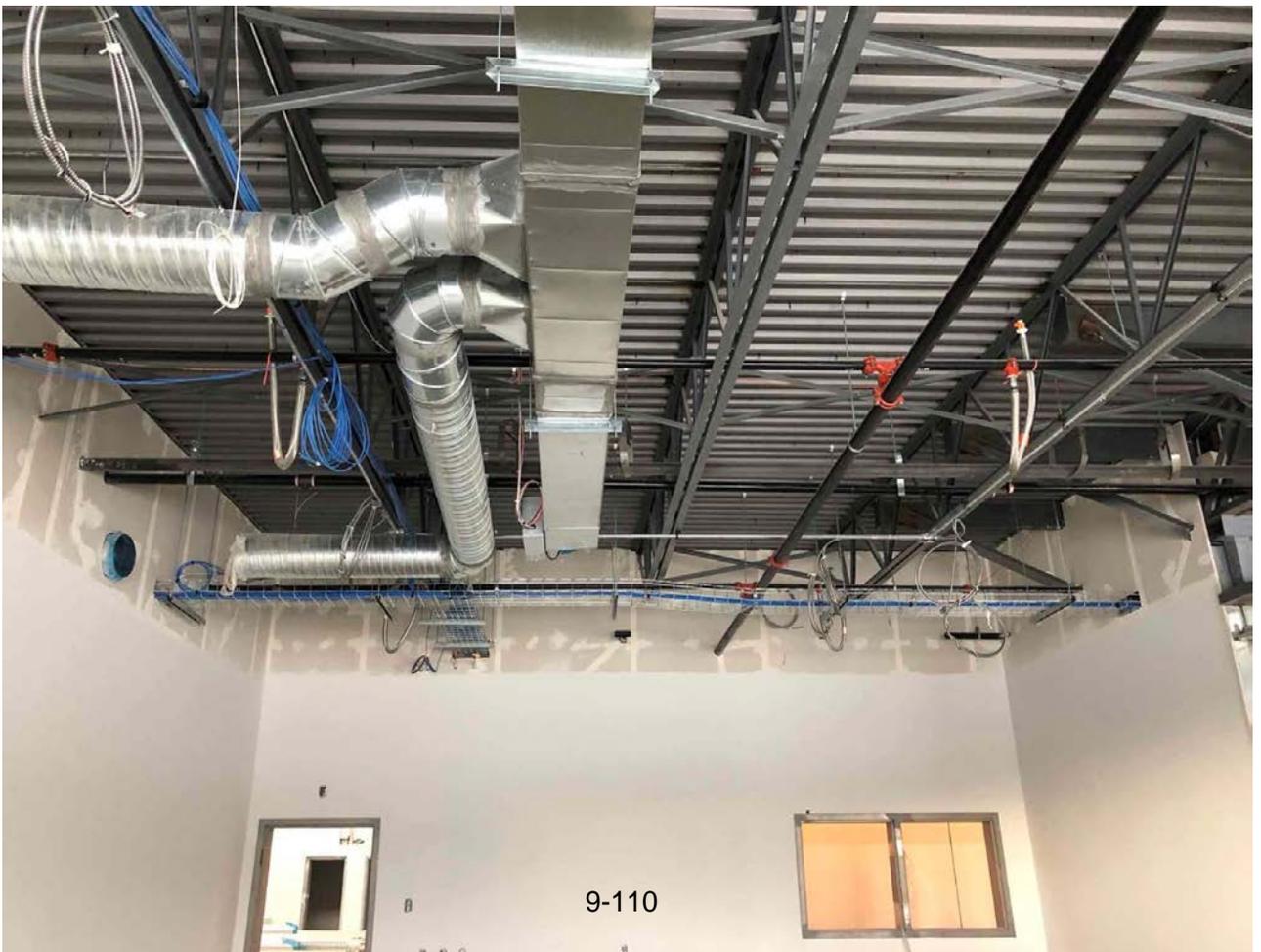
Auburn Bay Middle School



North Calgary High School



Auburn Bay Elementary School



Skyview Ranch K-9 School



## report to Board of Trustees

### Correspondence

Date	April 26, 2022
Meeting Type	Regular Meeting, Public Agenda
To	Board of Trustees
From	Patricia Minor, Corporate Secretary
Purpose	Information
Governance Policy Reference	Operational Expectations OE-7: Communication With and Support for the Board

#### 1 | Recommendation

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This report is being provided for the information of the Board.

#### 2 | Background

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The following is a summary of correspondence that has not been placed on regular schedule Board meeting agendas:

- Letter dated December 9, 2021 to The Hon. A. LaGrange, Education Minister re: Use of Capital Reserves for New School Development and Fit-Up.
- Letter dated March 7, 2022 from The Hon. A. LaGrange, Education Minister, re: Use of Capital Reserves for New School Development and Fit-Up.
- Letter dated March 4, 2022 from The Hon. A. LaGrange, Education Minister, re: Funding Allocation for Auburn Bay Elementary Playground.

Attachments: Relevant Correspondence





www.cbe.ab.ca

Board Chair  
 Laura Hack Wards 3 & 4

Vice-Chair  
 Susan Vukadinovic Wards 8 & 9

Trustees  
 Dana Downey Wards 1 & 2  
 Marilyn Dennis Wards 5 & 10  
 Patricia Bolger Wards 6 & 7  
 Nancy Close Wards 11 & 13  
 Charlene May Wards 12 & 14

December 9, 2021

Honourable Adriana LaGrange  
 Minister of Education  
 10800 – 97 Avenue  
 Edmonton, AB T5K 2B6

Dear Minister LaGrange:

**Re: Use of Capital Reserves for New School Development and Fit-Up**

The CBE is requesting authorization to expend up to \$8,467,000 from capital reserves in 2021-2022 to support new school development and fit-up activities.

In reference to this request, the CBE Board of Trustees passed the following motion on December 7, 2021:

- *“THAT the Board of Trustees approves a budget expenditure of up to \$8,467,000 from capital reserves in 2021-2022 to undertake school development and fit-up for the following five (5) schools:*
  - *Auburn Bay Elementary School*
  - *Auburn Bay Middle School*
  - *Mahogany School*
  - *North Calgary High School*
  - *Skyview Ranch K-9 School”*

Funds requested will be used to support the CBE Capital Planning and Development team in their interactions with Alberta Infrastructure supporting project delivery, and the planning and acquisition of new school furniture, fittings and equipment.

Should you have further questions regarding this request, please feel free to have your staff contact Dany Breton, Superintendent, Facilities & Environmental Services for additional information.

Sincerely,

Laura Hack, Chair  
Board of Trustees

cc: Christopher Usih, Chief Superintendent  
Dany Breton, Superintendent, Facilities & Environmental Services



Office of the Minister



AR117444

MAR 07 2022

Ms. Laura Hack  
Chair  
Calgary Board of Education  
1221 - 8 Street SW  
Calgary AB T2R 0L4

Dear Ms. Hack:

Thank you for your December 9, 2021 letter on behalf of the Calgary Board of Education requesting ministerial approval to access capital reserves.

I hereby approve the Calgary Board of Education's request to use up to \$8,467,000 of its capital reserves to support new school development and fit-up activities for the following new schools:

- Auburn Bay Elementary School;
- Auburn Bay Middle School;
- Mahogany School;
- North Calgary High School; and
- Skyview Ranch Kindergarten to Grade 9 School.

I trust this funding will assist in providing additional technology, materials, supplies and equipment for these new schools.

Thank you for your support of students and public education in Alberta.

Sincerely,

Adriana LaGrange  
Minister



Office of the Minister



MAR 04 2022

AR115924

Ms. Laura Hack  
Chair  
The Calgary School Division  
1221 - 8 Street SW  
Calgary AB T2R 0L4

Dear Ms. Hack:

Playgrounds provide a place where students can explore and develop, and they benefit all families in the local community. I am pleased to advise you of the following funding allocation for the Calgary School Division:

Project Name	Funding Amount
New School Project - Auburn Bay Elementary	Up to \$250,000

This funding is intended to assist with the provision of playgrounds for these schools, and we expect the funds will supplement existing fundraising efforts within the school community.

Further details regarding this funding, including project details, reporting requirements and funding disbursement will be provided in a follow-up email from Dale Box, Director, K-12 Strategic Capital Planning.

Sincerely,

Adriana LaGrange  
Minister