

AGENDA

1. Call to Order
2. Awards, Honors, and Recognitions
3. Board Committee Reports
 - 3.1. Enrollment Committee
 - 3.2. Facilities Committee
 - 3.3. Finance Committee
 - 3.3.1. FY2020 Draft Independent Financial Audit
 - 3.3.2. Ultraviolet and Air Purification Systems
 - 3.4. Governance Committee
4. Special Reports
 - 4.1. Leadership Report
 - 4.1.1. Re-Opening Planning
 - 4.1.2. Staff Orientation
 - 4.1.3. Personnel Update
 - 4.1.4. Race and Social Justice
 - 4.2. Foxborough Regional Charter School Foundation Report
 - 4.3. Partners In Education (PIE) Report
 - 4.4. English Learner Parent Advisory Committee (ELPAC) Report
 - 4.5. Special Education Parent Advisory Committee (SEPAC) Report
5. Policy Review
6. Old Business
7. New Business
8. Approval of the Minutes
 - 8.1. June 26, 2020
 - 8.2. July 14, 2020
 - 8.3. August 4, 2020
 - 8.4. August 11, 2020
 - 8.5. September 1, 2020
9. Privilege of the Floor – Members of the audience who wish to address the board may do so during this portion of the meeting. Forms for Privilege of Floor for items other than those on the agenda must be submitted by noon the day before the board meeting.
10. Items for Next Board Meeting
11. Adjournment

The listed matters are those reasonably anticipated by the Chair to be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may be brought up for discussion to the extent permitted by law.

Publicly posted: September 3, 2020 at 3:30 p.m.



Foxborough Regional Charter School

Board Meeting

Published on September 1, 2020 at 3:20 PM EDT

Date and Time

Tuesday September 8, 2020 at 6:15 PM EDT

Location

Foxborough Regional Charter School
MS/HS Cafetorium

Board meetings are open to the public. Members of the audience who wish to address the board may do so during the "Privilege of the Floor" portion of the monthly Board meeting. Forms for Privilege of Floor, for items other than those on the agenda, must be submitted by noon the day before the Board meeting in order to be heard during the meeting. Forms may be obtained from and submitted to the school's central office.

Agenda

	Purpose	Presenter	Time
I. Opening Items			6:15 PM
A. Roll Call Attendance			
B. Call the Meeting to Order			
II. Leadership Report			
A. Re-Opening Planning			
B. Staff Orientation			
C. Personnel Update			
D. Race & Social Justice			
III. Committees			
A. Enrollment			
B. Facility			
C. Finance			
• FY2020 Draft Independent Financial Audit			
• Ultraviolet and Air Purification Systems			
D. Governance			
E. Foxborough Regional Charter School Foundation			

IV. Policy Review

- A. New Policies
- B. Old Policies

V. Special Reports

- A. Partners In Education (PIE) Report
- B. English Learner Parent Advisory Committee (ELPAC) Report
- C. Special Education Parent Advisory Committee (SEPAC) Report

VI. New/Old Business

- A. New Business
- B. Old Business

VII. Closing Items

- A. Approval of Minutes: 26JUN2020
- B. Approval of Minutes: 14JUL2020
- C. Approval of the Minutes: 04AUG2020
- D. Approval of the minutes: 11AUG2020
- E. Approval of the minutes: 01SEP2020
- F. Adjourn Meeting Vote

The listed matters are those reasonably anticipated by the Chair to be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may be brought up for discussion to the extent permitted by law.

Grade	Pre Enrollment Report	Current Enrollment
K	146	163
1	146	151
2	146	158
3	146	156
4	146	156
5	146	158
6	146	155
7	146	148
8	147	155
9	120	125
10	103	98
11	89	86
12	63	63
Total	1690	1772

Foxborough Regional Charter School
Financial Statements and
Independent Auditors' Report in Accordance with
Government Auditing Standards and the
Uniform Guidance

June 30, 2020 and 2019

Revised draft 8-26-20 for discussion only

Foxborough Regional Charter School

Table of Contents

	Page
Independent Auditors' Report	1
Management's Discussion and Analysis	4
Financial Statements:	
Statements of Net Position	8
Statements of Revenues, Expenses, and Changes in Net Position	9
Statements of Cash Flows	10
Notes to Financial Statements	11
Schedule of Expenditures of Federal Awards	25
Notes to Schedule of Expenditures of Federal Awards	26
Independent Auditor's Report on Internal Control and Compliance In Accordance With <i>Government Auditing Standards</i>	28
Independent Auditor's Report On Compliance and Internal Control Required by the Uniform Guidance	31
Schedule of Findings and Questioned Costs	34
Summary Schedule of Prior Audit Findings	36
Board Acceptance Letter	38

Revised draft 8-26-20 for discussion only



Independent Auditors' Report

To the Board of Trustees of
Foxborough Regional Charter School

Report on the Financial Statements

We have audited the accompanying statements of net position of Foxborough Regional Charter School (a governmental entity) (the School), as of and for the years ended June 30, 2020 and 2019, and the related statements of revenues, expenses and changes in net position and cash flows for the years then ended and the related notes to the financial statements, which collectively comprise the School's financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the School, as of June 30, 2020 and 2019, and the respective changes in its financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, Foxboro Regional Charter School Foundation, Inc. (the Foundation), a related nonprofit organization, was evaluated in conformance with Government Accounting Standards Board *Statement No. 80, Blending Requirements for Certain Component Units* and it was determined that it should be reported as a blended component unit of the School and consequently the financial information included within the School's financial statements. The nature and extent of the financial activity of the Foundation was not significant to the School overall, therefore it was excluded from the School's financial statement presentation.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 7 be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinion on the financial statements that collectively comprise the School's financial statements. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated **Open Date**, on our consideration of the School's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the School's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering School's internal control over financial reporting and compliance.

Open Date

Revised draft 8-26-20 for discussion only

Foxborough Regional Charter School
Management's Discussion and Analysis
June 30, 2020 (Unaudited)

The following management's discussion and analysis of Foxborough Regional Charter School's (the School) financial performance provides an overview of the School's financial activities for the fiscal year ended June 30, 2020, with comparative information for the fiscal year ended June 30, 2019. Please read it in conjunction with the financial statements and the related notes, which begin on page 8.

The School as a Whole

The School received their charter on July 1, 1998 to operate as a public charter school in the Commonwealth of Massachusetts. The charter is awarded in five-year increments and is subject to renewal at the discretion of the Commonwealth of Massachusetts Board of Elementary and Secondary Education. The School's charter was most recently renewed for an additional five years effective July 1, 2018. During fiscal years 2020 and 2019, the School operated kindergarten through grade twelve and the enrollment was comprised of approximately 1,658 and 1,619 students, respectively. At capacity the School's maximum enrollment totals 1,700.

The School's mission statement is: *to provide students a challenging academic program to prepare them for college by stressing achievement, discipline, hard work and accountability.*

Financial Reporting Entity

As required by generally accepted accounting principles, and in conformance with Government Accounting Standards Board (GASB) *Statement No. 14, The Financial Reporting Entity* and *GASB Statement No. 39, Determining Whether Certain Schools Are Component Units and subsequently amended by GASB No. 61, The Financial Reporting Entity: Omnibus – an amendment of GASB Statements No. 14 and No. 34* and *GASB No. 80, Blending Requirements for Certain Component Units*, the School evaluated its potential component unit and determined that the Foxborough Regional Charter School Foundation, Inc. (the Foundation) is a component unit of the School and should be presented as blended component unit in the financial statements. Management determined that the nature and extent of the financial activity of the Foundation was not significant to the School as a whole, therefore it was not included as a blended component unit of the School.

Using This Annual Report

This annual report consists of a series of financial statements. *GASB Statement No. 34 - Financial Statement - Management's Discussion and Analysis - for State and Local Governments* (GASB No. 34), the School is considered a special purpose government entity that engages in only business type activities. All of the financial activity of the School is recorded in an enterprise fund within the proprietary fund group in accordance with *GASB No. 34* and *GASB No. 63 Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*, the School issues a *Statement of Net Position*, a *Statement of Revenues, Expenses and Changes in Net Position* and a *Statement of Cash Flows*. These statements provide information about the financial activities of the School, as a whole. This annual report also contains notes to the financial statements and other information that is essential to a full understanding of the financial statements and the schedule of expenditures of federal awards which identifies all of the School's Federal funding.

Foxborough Regional Charter School
Management's Discussion and Analysis - *Continued*
June 30, 2020 (Unaudited)

Financial Statements

The *Statement of Net Position* presents the assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position of the School as a whole, as of the end of the fiscal years. The *Statement of Net Position* is a point-in-time financial statement. The purpose of this statement is to present a fiscal snapshot of the School to the readers of the financial statements. Assets are resources with present service capacity that the School presently controls. A deferred inflow of resources is an acquisition of net assets by the School that is applicable to a future reporting period. Liabilities are present obligations to sacrifice resources that the School has little or no discretion to avoid. A deferred outflow of resources is a consumption of net assets by the School that is applicable to a future reporting period. Net position represents the difference between all other elements in a statement of financial position and is displayed in three components—*net investment in capital assets; restricted* (distinguishing between major categories of restrictions); and *unrestricted*.

The *net investment in capital assets* component of net position, which consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those capital assets.

The *restricted* component of net position consists of restricted assets reduced by liabilities. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

The *unrestricted* component of net position is the net amount of the assets, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Over time, readers of the financial statements will be able to evaluate the School's fiscal health (liquidity and solvency) or financial position by analyzing the increases and decreases in net position to determine if the School's financial health is improving or deteriorating. The reader will also need to consider other non-financial factors such as changes in economic conditions and new or amended charter school legislation when evaluating the overall financial health of the School. This statement is also a good source for readers to determine how much the School owes to vendors and creditors and the available assets that can be used to satisfy those liabilities.

The *Statement of Revenues, Expenses and Changes in Net Position* reports the financial (revenue and expenses) activities of the School and divides it into two categories: *Operating activities* and *Non-operating activities*. Operating activities include all financial activities associated with the operation of the School and its related programs. Consequently, all non-operating activities include all financial activities not related to the operation of a charter school. Changes in total net position, as presented on the *Statement of Net Position*, are based on the activity presented in this statement. This statement helps to determine whether the School had sufficient revenues to cover expenses during the year and its net increase or decrease in net position based on current year operations.

Foxborough Regional Charter School
Management's Discussion and Analysis - *Continued*
June 30, 2020 (Unaudited)

Financial Statements – *Continued*

The *Statement of Cash Flows* provides information about the School's cash receipts and cash payments during the fiscal year. The statement reports cash receipts, cash payments, and net changes in cash resulting from *operations, investing, and capital and noncapital financing activities* and provides answers to such questions as "from where did cash come?," "for what was cash used?," and "what was the change in the cash balance during the reporting period?" This statement also is an important tool in helping users assess the School's ability to generate future net cash flows, its ability to meet its obligations as they come due, and its need for external financing.

Notes to the Financial Statements provide additional information that is essential to a full understanding of the information provided in the School's financial statements.

Supplemental Information

The *Schedule of Expenditures of Federal Awards* is presented for the purposes of additional analysis as required by the Title 2 *U.S. Code of Federal Regulations* (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. The schedule of expenditures of federal awards can be found on page 25 of this report.

Financial Highlights

The following financial highlights are for the School for fiscal year 2020 and include comparative information from fiscal year 2019:

- The School held total assets of \$53,657,819 and \$52,581,299 at June 30, 2020 and 2019, respectively, of which \$39,616,429 and \$39,428,268 were net capital assets. The majority of the remaining assets consisted of cash, receivables and debt service reserve funds. The increase in total assets was largely due to an increase in cash as a result of a surplus in operating activities, as well as a significant amount of capital additions.
- The School held total liabilities of \$39,737,937 and \$40,285,760 at June 30, 2020 and 2019, respectively. In 2020, the School held \$4,103,754 in current liabilities and \$35,634,183 in noncurrent liabilities. In 2019, the School held \$3,648,553 in current liabilities and \$36,637,207 in noncurrent liabilities. The decrease in liabilities is largely due to the decrease in bonds payable, as the bonds are paid down annually.
- Total net position for the School was \$17,252,923 and \$15,602,330 at June 30, 2020 and 2019, respectively, of which \$10,562,418 and \$10,240,846 were unrestricted and \$6,690,505 and \$5,361,484 were for net investment in capital assets, respectively. As of June 30, 2020 and 2019, the Board of Trustees has designated \$124,423 and \$85,762, respectively, of unrestricted net assets for the self-insured dental program and \$3,565,006 and \$4,163,131, respectively, of unrestricted net assets for future capital purchases.

Foxborough Regional Charter School
Management's Discussion and Analysis - *Continued*
June 30, 2020 (Unaudited)

Financial Highlights – Continued

- The School earned total revenues (excluding on-behalf pension) of \$25,902,445 and \$25,123,363 for the years ended June 30, 2020 and 2019, respectively, of which 98% were operating revenues and 2% were from non-operating revenues for the fiscal years ended June 30, 2020 and 2019.
- The School had a total expenses (excluding on-behalf pension) of \$24,251,852 and \$22,853,226 for the years ended June 30, 2020 and 2019, respectively, and 93% were operating expenses and 7% for both years were from non-operating expenses.
- The School had a change in net position of \$1,650,593 and \$2,270,137 for the years ended June 30, 2020 and 2019, respectively. In fiscal year 2020, the change in net position was comprised of operating income of \$2,767,694 and a non-operating loss of \$1,117,101. The non-operating loss is largely due to interest expense. In fiscal year 2019, the change in net position was comprised of operating income of \$3,596,923 and a non-operating loss of \$1,326,786. The non-operating loss is partially due to interest expense relating to bonds issued for the construction of new classrooms in 2017, as well as other ongoing construction projects.

Budgetary Highlights

For the fiscal year ended June 30, 2020, the School incurred \$24,251,852 in actual expenditures excluding \$3,701,444 of on-behalf expenses, compared to budgeted expenditures of \$25,365,142. The main reason for the decrease in actual over budgeted expenditures was due to a decrease in certain in person activities, which were curtailed in response to the COVID19 pandemic, and related quarantine and shutdown requirements.

For fiscal year 2020, the School budgeted tuition revenue of \$23,112,250 which approximated the actual revenue of \$23,094,839.

School's Financial Activities

The majority of the School's funding is received from the Commonwealth of Massachusetts Department of Elementary and Secondary Education and is based on the standard rate per pupil. The School received \$23,094,839 in per pupil funding in fiscal year 2020, versus \$22,077,132 in per pupil funding in fiscal year 2019. This represents 89% and 88% of the School's revenue, excluding on-behalf revenue, for the years ended June 30, 2020 and 2019, respectively. In addition, the School received various Federal and Commonwealth of Massachusetts grants, which totaled \$903,181 and \$1,022,313 for fiscal years 2020 and 2019, respectively.

Contacting the School's Financial Management

This financial report is designed to provide the reader with a general overview of the School's finances and to show accountability of the funds received. If you have any questions about this report or need additional financial information, contact the Business Office of the School.

Foxborough Regional Charter School
Statements of Net Position
For The Years Ended June 30, 2020 and 2019

Assets and Deferred Outflows of Resources		
	<i>2020</i>	<i>2019</i>
<i>Current Assets:</i>		
Cash and cash equivalents	\$ 10,117,141	\$ 7,608,257
Grants and accounts receivable	226,497	2,084,884
Prepaid expenses	73,483	-
Total current assets	10,417,121	9,693,141
<i>Noncurrent Assets:</i>		
Capital assets, net	39,616,429	39,428,268
Escrow project fund	-	2,680
Debt service reserve fund	3,624,269	3,457,210
Total noncurrent assets	43,240,698	42,888,158
Total assets	53,657,819	52,581,299
<i>Deferred Outflows of Resources:</i>		
Deferred charge on refunding	3,472,576	3,634,091
Total assets and deferred outflows of resources	\$ 57,130,395	\$ 56,215,390
Liabilities, Deferred Inflows of Resources and Net Position		
	<i>2020</i>	<i>2019</i>
<i>Current Liabilities:</i>		
Accounts payable and accrued expenses	\$ 1,090,988	\$ 792,620
Accrued compensation	1,485,531	1,346,466
Accrued interest payable	611,225	620,000
Capital lease obligation - current	12,280	11,689
Bonds payable - current	903,730	877,778
Total current liabilities	4,103,754	3,648,553
<i>Noncurrent Liabilities:</i>		
Bonds payable, net of current portion	35,562,832	36,553,576
Capital lease obligation, net of current portion	71,351	83,631
Total noncurrent liabilities	35,634,183	36,637,207
Total liabilities	39,737,937	40,285,760
<i>Deferred Inflows of Resources:</i>		
Revenues for future periods	139,535	327,300
<i>Net Position:</i>		
Net investment in capital assets	6,690,505	5,361,484
Unrestricted	10,562,418	10,240,846
Total net position	17,252,923	15,602,330
Total liabilities, deferred inflows of resources and net position	\$ 57,130,395	\$ 56,215,390

See accompanying notes to the financial statements

Foxborough Regional Charter School
Statements of Revenues, Expenses, and Changes in Net Position
For The Years Ended June 30, 2020 and 2019

	<i>2020</i>	<i>2019</i>
<i>Operating revenues:</i>		
Tuition	\$ 23,094,839	\$ 22,077,132
Federal and state grants	689,300	690,480
Food service program	383,766	606,958
Transportation	750,939	834,763
Other program fees	131,747	161,628
Extended care program	229,954	320,936
On-behalf pension	<u>3,701,444</u>	<u>2,449,577</u>
Total operating revenues	<u>28,981,989</u>	<u>27,141,474</u>
<i>Operating expenses:</i>		
Salaries	13,493,721	12,540,410
Payroll taxes	464,620	454,423
Fringe benefits	<u>1,856,742</u>	<u>1,768,172</u>
Total salary, taxes and related benefits	15,815,083	14,762,435
Contracted services	240,506	158,293
Depreciation	2,035,298	1,871,632
Dues and fees	185,228	112,365
Extended day program	9,174	12,644
Field trips and competitions	88,485	127,371
Food services program expenses	446,430	537,172
Furniture, equipment and software	193,597	232,038
Insurance	170,353	148,507
Maintenance and supplies	721,843	752,740
Miscellaneous	168,096	98,279
Occupancy costs	457,034	504,854
Office supplies, printing and postage	179,054	187,448
On-behalf pension	3,701,444	2,449,577
Professional development	42,454	37,947
Professional services	66,291	45,495
Student life programs	41,293	68,589
Student supplies and materials	361,248	330,584
Telephone	29,961	30,142
Transportation	1,152,625	995,824
Vehicle and equipment leases	85,548	79,615
Bad debt	<u>23,250</u>	<u>-</u>
Total operating expenses	<u>26,214,295</u>	<u>23,544,551</u>
Net operating income	<u>2,767,694</u>	<u>3,596,923</u>
<i>Non-operating revenues (expenses):</i>		
Interest expense	(1,736,558)	(1,755,140)
Fundraising	2,443	18,112
Fundraising expense	(2,443)	(3,112)
Interest income	187,042	190,859
Investment income	69,324	66,334
Private grants and contributions	275,656	52,719
Rental income	<u>87,435</u>	<u>103,442</u>
Net non-operating expenses	<u>(1,117,101)</u>	<u>(1,326,786)</u>
Change in net position	<u>1,650,593</u>	<u>2,270,137</u>
Net position, beginning of the year	<u>15,602,330</u>	<u>13,332,193</u>
Net position, end of the year	<u>\$ 17,252,923</u>	<u>\$ 15,602,330</u>

Revised draft 8-26-20 for discussion only

See accompanying notes to the financial statements

Foxborough Regional Charter School
Statements of Cash Flows
For The Years Ended June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Receipts from per student tuition	\$ 24,949,516	\$20,025,735
Receipts from federal and state grants	520,862	582,189
Receipts from educational fees	1,344,193	1,852,753
Other receipts	136,596	156,775
Payments to employees	(15,676,018)	(14,548,213)
Payments to suppliers and vendors	(4,371,860)	(4,624,759)
	<u>6,903,289</u>	<u>3,444,480</u>
Cash flows from capital and related financing activities:		
Purchases of capital assets	(2,223,459)	(1,432,755)
Principal payments on bonds	(877,777)	(348,494)
Interest paid on capital lease	(11,689)	-
	<u>(3,112,925)</u>	<u>(1,781,249)</u>
Cash flows from investing activities:		
Non-operating revenue	621,900	431,466
Non-operating expenses	(1,739,001)	(1,758,252)
	<u>(1,117,101)</u>	<u>(1,326,786)</u>
Net increase in cash	2,673,263	336,445
Cash, beginning of year	11,068,147	10,731,702
Cash, end of year	<u>\$ 13,741,410</u>	<u>\$ 11,068,147</u>
Reconciliation of net operating income to net cash provided by operating activities:		
Operating income	\$ 2,767,694	\$3,596,923
<i>Adjustments to reconcile the income from operations to net cash provided by operating activities</i>		
Depreciation	2,035,298	1,871,632
Amortization	74,500	74,500
<i>Decrease/(increase) in:</i>		
State and federal receivable	1,858,387	(1,861,051)
Prepaid expense	(73,483)	2,333
<i>Increase (decrease) in:</i>		
Accounts payable and accrued expenses	298,368	(226,395)
Accrued compensation and interest	130,290	199,932
Deferred grant revenue	(187,765)	(213,394)
Net cash provided by operating activities	<u>\$ 6,903,289</u>	<u>\$ 3,444,480</u>

See accompanying notes to the financial statements

Foxborough Regional Charter School

Notes to Financial Statements

June 30, 2020 and 2019

1. *Nature of School*

Foxborough Regional Charter School was established on July 1, 1998 after receiving their charter from the Commonwealth of Massachusetts under Chapter 71 Section 89 of the General Laws of Massachusetts. The School's charter is awarded in five year increments and is subject to renewal at the discretion of the Massachusetts Department of Elementary and Secondary Education (DESE). The School's charter expires June 30, 2023. The DESE provided 93% and 92% of funding to the School for the years ended June 30, 2020 and 2019 respectively, through per pupil tuition and federal grants.

The School has one location in Foxborough, Massachusetts and offers children in the towns of Easton, Canton, Foxborough, Mansfield, Medway, Millis, Norfolk, North Attleboro, Norton, Norwood, Plainville, Raynham, Sharon, Stoughton, Walpole, West Bridgewater and Wrentham, and the cities of Attleboro, Avon and Brockton, in grades kindergarten through twelve, a publicly supported academic education. During fiscal years 2020 and 2019, the School served 1,658 and 1,619 children, respectively.

The Foxborough Regional Charter School Foundation, Inc., (the Foundation) was established during fiscal year 2019 and is a legally separate, tax-exempt organization that acts primarily as a fundraising organization to supplement the resources of the School. The Foundation is exempt from Federal income taxes under Section 501(c)(3) of the Internal Revenue Code. Because these resources can only be used by or for the benefit of the School, the Foundation is considered a component unit of the School. However, management determined that the nature and extent of the financial activity of the Foundation was not significant to the School as a whole, therefore it was not included as a blended component unit of the School.

The School's mission is as follows:

The Foxborough Regional Charter School will provide students a challenging academic program to prepare them for college by stressing achievement, discipline, hard work and accountability. We will continually challenge all of our students, regardless of ability, so that we will lead the Commonwealth of Massachusetts in all statewide standards and assessments.

The Foxborough Regional Charter School will promote positive ethical, moral, and civic values and prepare students to serve their respective communities as leaders and good citizens. We will present students with projects and issues requiring critical thinking, problem-solving, decision-making, and real life applications of their academic studies through our Student Life and Community Service Learning programs which are integral components of the overall educational experience at Foxborough Regional Charter School.

The Foxborough Regional Charter School will commit itself to providing a supportive, professional, and challenging environment for its teachers and staff which recognizes the value of professional development, creativity, and initiative. We will constantly seek new ways to allow our teachers and staff to perform to the best of their potential in a collegial atmosphere which recognizes unique talents and the commitment to excel.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

2. Summary of Significant Accounting Policies

The accounting policies of the School conform to accounting principles generally accepted in the United States of America, as applicable to governmental units. The following is a summary of the School's significant accounting policies:

Financial Reporting Entity

As required by generally accepted accounting principles, and in conformance with the *Government Accounting Standards Board (GASB) Statements No. 14, The Financial Reporting Entity* and *GASB Statement No. 39, Determining Whether Certain Organizations Are Component Units* and subsequently amended by *GASB No. 61, The Financial Reporting Entity: Omnibus – an amendment of GASB Statements No. 14 and No. 3*, and *GASB No. 80, Blending Requirements for Certain Component Units*, the School evaluated its potential component unit to determine the reporting entity. The nature and extent of the financial activity of the Foundation was not significant to the School as a whole, therefore it was not included as a blended component unit in the reporting entity.

Financial Statement Presentation

The School, in accordance with *GASB Statement No. 34 - Basic Financial Statement – and Management's Discussion and Analysis - for State and Local Governments*, is considered a special purpose governmental entity that engages in only business type activities and is not a component unit of another governmental entity. Therefore, the financial statements are prepared using the accrual basis of accounting and all of the activity is recorded in the enterprise fund.

Basis of Accounting

The accrual basis of accounting is used for all governmental entities that operate as business type entities. Accordingly, revenue is recognized when earned and capital assets and expenditures are recorded when received and incurred, respectively. Grants and contributions are recognized when all eligible requirements are met.

Pursuant to *GASB Statement No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 1989 FASB and AICPA Pronouncements*, the School has elected to apply the provisions of all relevant pronouncements of Financial Accounting Standards Board (FASB) that do not conflict with or contradict GASB pronouncements.

Tax Status

The School was established under a charter granted by the Commonwealth of Massachusetts' DESE and operates as a part of the Commonwealth of Massachusetts and is therefore, generally exempt from income taxes under Section 115 of the Internal Revenue Code.

Cash and Cash Equivalents

For the purpose of the *Statement of Net Position* and the *Statement of Cash Flows*, the School considers all short-term investments with an original maturity of three months or less to be cash equivalents. As of June 30, 2020 and 2019, the School held \$7,266,895 and \$5,134,903, respectively of cash equivalents.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

2. Summary of Significant Accounting Policies – Continued

Grants and Accounts Receivable

Grants and accounts receivables are presented net of the allowance for doubtful accounts. Management's periodic evaluation of the adequacy of the allowance is based on its past experience. These receivables are written off when deemed uncollectible. At June 30, 2020 and 2019, no allowance for doubtful accounts had been recorded, as management considers all receivables to be fully collectible.

Capital Assets

Capital assets are recorded at cost or at fair market value at the date of donation. Capital assets purchased with a cost or value greater than \$5,000 are capitalized. Depreciation is computed on a straight-line basis using estimated useful lives of 40 years for the building, 10-20 years for the building improvements, 3-5 years for equipment, computers and software, 4-10 years for furniture and fixtures, or the remaining life of the lease for equipment under capital lease.

Construction in Progress

Construction in progress includes costs associated with the renovation of the elementary school building. These costs are capitalized when incurred.

Capital Leases

A lease is a contract that conveys control of the right to use another entity's nonfinancial asset as specified in the contract for a period of time. If a lease transfers ownership at the end of the lease the lease asset is capitalized and amortized over the shorter of the lease term or the useful life. As such, a capital lease is reported within the net capital assets on the *Statement of Net Position*.

Operating Revenue and Expenses

Operating revenue and expenses generally result from providing educational and instructional services in connection with the School's principal ongoing operations. The principal operating revenues include Federal and Commonwealth of Massachusetts grants. Operating expenses include educational costs, administrative expenses and depreciation on capital assets. All other revenue and expenses not meeting this definition are reported as non-operating revenues and expenses.

Bonds and Related Premiums and Debt Issuance Costs

Bond premiums and discounts are deferred and amortized over the life of the bonds using the straight-line method. Bonds payable are reported net of the applicable bond premium. Pursuant to GASB Statement No. 65, *Items Previously Reported as Assets and Liabilities*, debt issuance costs are expensed when incurred.

Deferred Inflows and Outflows or Resources

In addition to assets and liabilities, the statement of net position will sometimes report a separate section for deferred inflows and outflows of resources. These separate financial statement elements represent an acquisition or disbursement of net position that applies to a future period(s) and so will not be recognized until that time.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

2. Summary of Significant Accounting Policies – Continued

Classification of Net Position

The following are the net position classifications:

- Net Investment in Capital Assets – book value of capital assets net of any related debt
- Restricted – amounts that can be spent only for specific purposes because of externally imposed restrictions by grantors and contributors.
- Unrestricted – portion of funds to support operations

The School applies restricted resources when an expense is incurred for purposes for which both restricted and unrestricted net position are available.

Fair Value

In accordance with GASB Statement No. 72, *Fair Value Measurement and Application*; the School's investments are measured at fair value on a recurring basis. The School categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

On-Behalf Payments

The School recognizes its proportional share of pension revenue and expense, as reported by Massachusetts Teachers' Retirement System (the MTRS), as on-behalf payments in the *Statement of Revenues, Expenses, and Changes in Net Position*.

Compensated Absences

Employees of the School are entitled to paid vacations and paid holidays, depending on the job classification, length of service, and other factors. The School accrues for these compensated absences.

Use of Estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications

Certain prior year amounts have been reclassified for consistency with the current year presentation. These reclassifications had no effect on the reported results of operations.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

3. *Deferred Outflows/Inflows of Resources*

In addition to assets, the *Statement of Net Position* will sometimes report a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to a future period and thus, will not be recognized as an outflow of resources (expense/expenditure) until then. The School has only one item that qualifies for reporting in this category, deferred charge on refunding. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows of resources at both June 30, 2020 and 2019 consist of unamortized bond refunding charges of \$3,876,364. Accumulated amortization at June 30, 2020 and 2019 was \$403,788 and \$242,273, respectively.

In addition to liabilities, the *Statement of Net Position* will sometimes report a separate section for deferred inflows of resources. This separate financial statement element represents revenue that applies to a future period and will not be recognized until that time. Unearned revenues arise when potential revenue does not meet both the “measurable” and “available” criteria for recognition in the current period. Unearned revenues also arise when resources are unearned by the School and received before it has a legal claim to them, as when grant monies are received prior to the incurrence of qualifying expenditures. In subsequent periods, when both revenue recognition criteria are met, or when the School has a legal claim to the resources, the deferred inflow of resources is removed and revenue is recognized.

Deferred inflows of resources at June 30, 2020 and 2019 consists of the following:

	2020	2019
Unearned private grants and contributions	\$ 460	\$ 274,281
Unearned program fees	134,303	49,844
Other unearned revenues	<u>4,772</u>	<u>3,175</u>
Total	<u>\$ 139,535</u>	<u>\$ 327,300</u>

4. *Deposits with Financial Institutions*

The School maintained its cash accounts at four financial institutions. These balances at times may exceed the Federal Deposit Insurance Corporation (FDIC) insured limit per financial institution. Management acknowledges the possibility of risk in this arrangement; however, the size and longevity of the depository institutions minimizes such risk.

As required by GASB Statement No. 40, *Deposits and Investment Risk Disclosures* at June 30, 2020 and 2019 are as follows:

	2020	2019
Fully insured deposits	\$ 750,000	\$ 752,680
Uncollateralized	<u>13,148,109</u>	<u>8,580,106</u>
Total	<u>\$ 13,898,109</u>	<u>\$ 9,332,786</u>

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

5. Fair Value Measurements

In accordance with GASB Statement No. 72, *Fair Value Measurement and Application*; the School's investments are measured at fair value on a recurring basis. The School categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The three levels of the fair value hierarchy are described as follows:

- Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets
- Level 2 - Inputs to the valuation methodology include:
 - Quoted prices for similar assets or liabilities in active markets;
 - Quoted prices for identical or similar assets or liabilities in inactive markets;
 - Inputs other than quoted prices that are observable for the asset or liability;
 - Inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3 - Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The assets or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

There have been no changes in the methodologies used at June 30, 2020 and 2019. The following are descriptions of the valuation methodologies used for assets measured at fair value.

Debt service reserve fund - Invested at least 99.5% of the fund's total assets in cash, U.S. Government securities and/or repurchase agreements that are collateralized fully (i.e., collateralized cash or government securities). Certain issuers of U.S. Government securities are sponsored or chartered by Congress but their securities are neither issued nor guaranteed by the U.S. Treasury. Investing in compliance with industry-standard regulatory requirements for money market funds for the quality, maturity, liquidity and diversification of investments. The agreement suggests maintaining a stable \$1 share price, liquidity, and income. Normally at least 80% of the fund's assets are invested in the U.S. Government securities and repurchase agreements for those securities.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

5. Fair Value Measurements – Continued

The following table sets forth by level, within the fair value hierarchy, the School's assets at fair value as of June 30, 2020 and 2019:

<i>Investments</i>	<i>Fair Value</i>	<i>Fair Value Measurements Using</i>		
		<i>Level 1 Inputs</i>	<i>Level 2 Inputs</i>	<i>Level 3 Inputs</i>
June 30, 2020 Debt service reserve fund	\$ 3,624,269	\$ -	\$ 3,624,269	\$ -
June 30, 2019 Debt service reserve fund	\$ 3,457,210	\$ -	\$ 3,457,210	\$ -

6. Capital Assets

Changes in capital assets of the School for the years ended June 30, 2020 and 2019 are as follows:

	<i>Balance July 1, 2019</i>	<i>Additions</i>	<i>Deletions</i>	<i>Balance June 30, 2020</i>
<i>Capital assets not being depreciated</i>				
Land	\$ 5,379,146	\$ -	\$ -	\$ 5,379,146
Construction in progress	-	29,281	-	29,281
Total capital assets not being depreciated	<u>5,379,146</u>	<u>29,281</u>	<u>-</u>	<u>5,408,427</u>
<i>Capital assets being depreciated</i>				
Building	35,662,039	208,883	-	36,070,922
Building improvements	4,572,012	656,548	-	5,228,560
Equipment	757,332	290,290	-	1,047,622
Computers and software	1,704,477	918,989	-	2,623,466
Classroom equipment	135,949	43,223	-	179,172
Furniture and fixtures	496,124	76,245	-	572,369
Total capital assets being depreciated	<u>43,527,933</u>	<u>2,194,178</u>	<u>-</u>	<u>45,722,111</u>
<i>Less accumulated depreciation</i>				
Building	7,053,038	1,092,855	-	8,145,893
Building improvements	1,473,786	264,554	-	1,738,340
Equipment	152,086	156,455	-	308,541
Computers and software	628,076	360,934	-	989,010
Classroom equipment	39,018	31,863	-	70,881
Furniture and fixtures	132,807	128,637	-	261,444
Total accumulated depreciation	<u>9,478,811</u>	<u>2,035,298</u>	<u>-</u>	<u>11,514,109</u>
Capital assets, net	<u>\$ 39,428,268</u>	<u>\$ 188,161</u>	<u>\$ -</u>	<u>\$ 39,616,429</u>

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

6. Capital Assets – Continued

	<i>Balance</i> <i>July 1, 2018</i>	<i>Additions</i>	<i>Deletions</i>	<i>Balance</i> <i>June 30, 2019</i>
<i>Capital assets not being depreciated</i>				
Land	\$ 5,217,596	\$ 161,550	\$ -	\$ 5,379,146
<i>Capital assets being depreciated</i>				
Building	35,578,885	324,498	41,344	35,862,039
Building improvements	4,438,363	133,649	-	4,572,012
Equipment	298,054	521,295	62,017	757,332
Computers and software	1,692,332	143,865	131,720	1,704,477
Classroom equipment	29,624	106,325	-	135,949
Furniture and fixtures	359,231	136,893	-	496,124
Total capital assets being depreciated	<u>42,396,489</u>	<u>1,366,525</u>	<u>235,081</u>	<u>43,527,933</u>
<i>Less accumulated depreciation</i>				
Building	6,015,450	1,078,332	41,344	7,053,038
Building improvements	1,227,368	246,418	-	1,473,786
Equipment	135,234	78,869	62,017	152,086
Computers and software	423,625	336,171	131,720	628,076
Classroom equipment	21,803	17,209	-	39,018
Furniture and fixtures	18,774	114,033	-	132,807
Total accumulated depreciation	<u>7,842,260</u>	<u>1,871,632</u>	<u>235,081</u>	<u>9,478,811</u>
Capital assets, net	<u>\$ 34,554,229</u>	<u>\$ (343,557)</u>	<u>\$ -</u>	<u>\$ 39,428,268</u>

7. Lease Commitments

Rental Revenue

The School leased a portion of its property during fiscal year 2020 to various parties. Rental income for the fiscal years ending June 30, 2020 and 2019 was \$87,435 and \$103,442, respectively.

Operating Leases

The School leased office equipment under an operating lease that expires in July 2024. Rent expense on the leases was \$46,387 and \$41,121 for the years ending June 30, 2020 and 2019, respectively.

The School leased vehicles under operating leases that expire at various times through September 2023. Rent expense on the leases was \$39,161 and \$38,494 during the years ending June 30, 2020 and 2019, respectively. Future minimum operating lease commitments are as follows:

<i>Fiscal Year</i>	<i>Amount</i>
2021	\$ 85,755
2022	\$ 83,421
2023	\$ 76,844
2024	\$ 45,526

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

7. Lease Commitments – Continued

Capital Leases

During fiscal year 2019, the School entered into a capital lease agreement under which the related equipment will become the property of the School when all terms of the lease agreement are met. The lease expires September 2025. The capital lease obligation at June 30, 2020 and 2019 and the changes for the fiscal years then ended are as follows:

	<i>Beginning Balance</i>	<i>Additions</i>	<i>Reductions</i>	<i>Ending Balance</i>	<i>Amounts Due Within One Year</i>
2020	\$ 95,320	\$ -	\$ 11,689	\$ 83,631	\$ 12,280
	<i>Beginning Balance</i>	<i>Additions</i>	<i>Reductions</i>	<i>Ending Balance</i>	<i>Amounts Due Within One Year</i>
2019	\$ -	\$ 118,823	\$ 16,503	\$ 95,320	\$ 11,689

Equipment and related accumulated amortization under the capital lease are as follows:

	2020	2019
Equipment	\$ 111,823	\$ 111,823
Less: accumulated amortization	(27,955)	(11,981)
Net value	<u>\$ 83,868</u>	<u>\$ 99,842</u>

Amortization of leased equipment under capital assets is included with depreciation expense.

The following represents future minimum capital lease payments as of June 30, 2020:

<i>Fiscal Year</i>	<i>Amount</i>
2021	\$ 16,503
2022	16,503
2023	16,503
2024	16,503
2025	16,503
Thereafter	<u>20,000</u>
Total minimum lease payments	102,515
Less amount representing interest	<u>(18,884)</u>
Present value of minimum lease payments	<u>\$ 83,631</u>

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

8. Bonds Payable

Massachusetts Development Finance Agency (MDFA) Revenue Bonds, Foxborough Regional Charter School Issue, Series 2017B, were issued on December 27, 2017, in the original principal amount of \$25,735,000 to advance refund \$24,915,000 of outstanding 2010 Series bonds with an average interest rate of 6.5%. The net proceeds of \$27,318,627 after payment of \$272,406 in underwriting fees, plus insurance and other issuance costs totaling \$319,337, were used to purchase U.S. government securities. Those securities were deposited into an irrevocable trust with an escrow agent to provide for all future debt service payments on the 2010 Series bonds. As a result, the 2010 Series bonds are considered to be defeased and the liability for those bonds has been removed from the *Statement of Net Position*. The bond is payable in annual principal installments and interest payments made semi-annually. The bond bears interest at 3% through 2019, 4% through 2026, and 5% through 2042. The bond agreement contains provisions that upon the occurrence and continuance of any event of default, as defined in the note agreement, the principal amount of the note together with accrued interest may be declared due and payable immediately. The School is required to maintain a historical debt service coverage ratio of at least 1.10 measured for each fiscal year and maintain an unrestricted cash balance as of the end of each fiscal year of at least 5% of its operating expenses for the prior fiscal year. The bonds also require a loan to value ratio of no greater than 85% through and including June 30, 2019, and then no greater than 83% commencing July 1, 2019. The School was in compliance with these covenants at June 30, 2020 and 2019. At June 30, 2020 and 2019, the outstanding loan balance was \$24,825,000 and \$25,410,000, respectively. Interest costs totaled \$1,222,450 and \$1,240,000 for fiscal years ended June 30, 2020 and 2019, respectively. Accrued interest totaled \$611,225 and \$620,000 for fiscal years ended June 30, 2020 and 2019, respectively.

MDFA Revenue Bond, Foxborough Regional Charter School Issue, Series 2017, were issued on May 19, 2017, in the original principal amount of \$10,000,000. The note is payable monthly with interest only payments due from June 19, 2017 through May 19, 2019, and principal and interest payments due monthly thereafter in the amount of \$52,168. The note bears interest at 3.33% and matures on May 19, 2042. The note is collateralized by the land and building located at 131 Central Street, Foxborough, Massachusetts. The note agreement contains provisions that upon the occurrence and continuance of any event of default, as defined in the note agreement, the principal amount of the note together with accrued interest may be declared due and payable immediately. The School is required to maintain a historical debt service coverage ratio of at least 1.20 measured for each fiscal year and to maintain an unrestricted cash balance as of the end of each fiscal year of at least 5% of its operating expenses for the prior fiscal year. The bonds also require a loan to value ratio of no greater than 83%. The School was in compliance with these covenants at June 30, 2020 and 2019. At June 30, 2020 and 2019 the outstanding loan balance was \$9,683,729 and \$9,976,506, respectively. Interest costs totaled \$333,244 and \$337,625, respectively, for the fiscal years ended June 30, 2020 and 2019.

The Series 2017B bonds were issued at a premium. The premium is amortized on a straight-line basis over the life of the loan and recorded as interest income in the statement of revenue, expenses and changes in net position. At June 30, 2020 and 2019, the bond premium was \$2,175,371 and accumulated amortization on the premium was \$217,538 and \$130,523, respectively. Interest income at June 30, 2020 and 2019 was \$87,015 for both years then ended.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

8. Bonds Payable – Continued

The loan balance and the related activity for the fiscal years ended June 30, 2020 and 2019 is as follows:

	<i>Balance</i>			<i>Balance</i>	
	<i>July 1, 2019</i>	<i>Additions</i>	<i>Reductions</i>	<i>June 30, 2020</i>	<i>Amounts Due</i>
					<i>Within One Year</i>
Bonds payable	\$ 35,386,506	\$ -	\$ 877,777	\$ 34,508,729	\$ 903,730
Plus: Bond premium	2,044,848	-	87,015	1,957,833	-
Bonds payable, net	<u>\$ 37,431,354</u>	<u>\$ -</u>	<u>\$ 964,792</u>	<u>\$ 36,466,562</u>	<u>\$ 903,730</u>

	<i>Balance</i>			<i>Balance</i>	
	<i>July 1, 2018</i>	<i>Additions</i>	<i>Reductions</i>	<i>June 30, 2019</i>	<i>Amounts Due</i>
					<i>Within One Year</i>
Bonds payable	\$ 35,735,000	\$ -	\$ 348,494	\$ 35,386,506	\$ 877,778
Plus: Bond premium	2,131,863	-	87,015	2,044,848	-
Bonds payable, net	<u>\$ 37,866,863</u>	<u>\$ -</u>	<u>\$ 435,509</u>	<u>\$ 37,431,354</u>	<u>\$ 877,778</u>

The following is the debt service payments on the School's notes payable.

<i>Fiscal</i>	<i>Principal</i>		<i>Interest</i>		<i>Total</i>	
<i>Year</i>						
2021	\$ 903,730	\$ 1,520,742	\$	2,424,472	\$	2,424,472
2022	939,145	1,485,327		2,424,472		2,424,472
2023	976,917	1,448,355		2,428,272		2,428,272
2024	1,020,263	1,403,759		2,424,022		2,424,022
2025	1,067,554	1,355,468		2,423,022		2,423,022
2026-2030	6,114,215	5,983,644		12,097,859		12,097,859
2031-2035	7,662,681	4,408,429		12,071,109		12,071,109
2036-2040	9,600,599	2,425,010		12,025,609		12,025,609
2041-2043	6,220,625	300,860		6,521,125		6,521,125
Total	<u>\$ 34,508,729</u>	<u>\$ 20,331,594</u>	<u>\$</u>	<u>\$ 54,839,962</u>	<u>\$</u>	<u>\$ 54,839,962</u>

The School has a Debt Service Reserve Fund being held by the Trustee. Any earnings from the fund will be used to reduce future principal and interest payments.

9. Retirement Plan

Massachusetts Teachers Retirement System

The Commonwealth of Massachusetts provides for retirement benefits to the School's eligible teachers through the Massachusetts Teachers' Retirement System (MTRS), a contributory retirement system administered by the Massachusetts Teachers' Retirement Board. MTRS is governed by Massachusetts General Laws (M.G.L.), Chapter 32, as well as regulations contained in the Code of Massachusetts Regulations (CMR). Oversight is provided by a seven-member board. MTRS issues a publicly available annual report that includes financial statements and required supplementary information, which may be obtained by writing to Public Employee Retirement Administration Commission (PERAC), 5 Middlesex Avenue, Suite 304, Somerville, Massachusetts, 02145.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

9. Retirement Plan – Continued

This retirement plan requires an employee contribution of five, seven, eight, or eleven percent (depending on the plan and the employment date) of the employee's compensation. The School is not assessed under this plan. This retirement system is a contributory defined benefit plan covering all the employees deemed eligible. Members of the plan become vested after 10 years of creditable service. A retirement allowance may be received upon reaching age 55 and upon attaining 20 years of service.

The plan also provides for retirement at age 55 if the participant (1) has a record of 10 years of creditable service, (2) was first employed by the School after January 1, 1978, (3) voluntarily left School employment on or after that date, and (4) left an accumulated annuity deduction in the fund.

MTRS retirement plan, under GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, is required by statute to determine the net pension liability for all participants. The net pension liability for the retirement plan at the June 30, 2019 measurement date was determined by an actuarial valuation prepared as of January 1, 2019 and rolled forward to June 30, 2019. At June 30, 2020 and 2019, the School's allocation of MTRS's net pension liability was \$30,523,003 and \$24,217,933, respectively.

10. On-Behalf Payments

In accordance with GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, the School is required to recognize its proportional share of pension revenue and expenses, as reported by MTRS, as on-behalf payments in their financial statements. For the years ended June 30, 2020 and 2019, the School recognized \$3,701,444 and \$2,449,577 of on-behalf revenues and expenses, respectively.

11. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses at June 30, 2020 and 2019 are as follows:

	2020	2019
Payables to vendors	\$ 1,090,988	\$ 792,620
Accrued salaries and benefits	<u>1,485,531</u>	<u>1,346,466</u>
Total	<u>\$ 2,576,519</u>	<u>\$ 2,139,086</u>

12. Board Designated Net Position

As of June 30, 2020 and 2019, the Board of Trustees has designated \$3,565,006 and \$4,163,131, respectively, of unrestricted net position for future capital expenditures, respectively. They have also designated \$124,423 and \$85,762 for the self-insured dental program as of June 30, 2020 and 2019, respectively.

Foxborough Regional Charter School
Notes to Financial Statements – *Continued*
June 30, 2020 and 2019

13. Grants and Accounts Receivables

Grants and accounts receivable for the School at June 30, 2020 and 2019 are as follows:

	2020	2019
Federal and state grants	\$ 172,938	\$ 359,600
Tuition	44,248	1,691,797
Other receivables	9,311	33,487
Total	\$ 226,497	\$ 2,084,884

14. Contingencies

Grant Funding

The School is subject to an audit of its Commonwealth of Massachusetts and Federal funding and as such, if determined that funds are not expended in accordance with the grant agreements, the grantor agency has the right to recapture these funds. Therefore, final acceptance of costs incurred under these grants and contracts resides with the grantors. As of the date of these statements, the materiality of adjustments to final costs, if any, cannot be determined and management does not anticipate any adjustments.

Cumulative Surplus Revenue

Effective July 1, 2010 any cumulative surplus revenue generated by the School must comply with M.G.L. c. 71, §89 (as amended by Chapter 12 of the Acts of 2010 under §7 (hh)). In accordance with this legislation and subsequent DESE regulations, if the School's cumulative surplus revenue, as defined, exceeds 20% of its operating budget and its budgeted capital costs for the succeeding fiscal year, the amount in excess of said 20% shall be returned by the School to the sending district or districts and the Commonwealth in proportion to their share of tuition paid during the fiscal year. Management does not anticipate any repayment for fiscal year 2020.

Coronavirus

A novel strain of coronavirus surfaced in Wuhan, China, and has spread around the world, with resulting business and social disruption. The coronavirus was declared a Public Health Emergency of International Concern by the World Health Organization on January 30, 2020. The operations and business results of the School could be materially adversely affected. The extent to which the coronavirus (or any other disease or epidemic) may impact business activity will depend on future developments. The future developments are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus and the actions required to contain the coronavirus or treat its impact, among others.

15. Subsequent Events

The School has evaluated subsequent events through August XX, 2020, which is the date the financial statements were issued. There are no recognized subsequent events that provide additional evidence about conditions that existed at the statement of net position date, or non-recognized subsequent events, or events that provide evidence about conditions that did not exist at the statement of net position date, which are necessary to disclose to keep the financial statements from being misleading.

**SCHEDULE OF EXPENDITURES OF
FEDERAL AWARDS**

Revised draft 8-26-20 for discussion only

Foxborough Regional Charter School
Notes to the Schedule of Expenditures of Federal Awards
June 30, 2020

<i>Federal Grantor (Pass-Through Grantor) Program Title or Cluster</i>	<i>Federal CFDA Number</i>	<i>Pass-Through Entity Identifying Number</i>	<i>Federal Expenditures</i>
<i>U.S. Department of Education</i>			
Passed through the Massachusetts Department of Elementary and Secondary Education			
Special Education Cluster			
Special Education - Grants to States (IDEA, Part B)	84.027	240-317584-2020-0446	\$ 314,412
Special Education - Grants to States (IDEA, Part B) 2019 Carry Over	84.027	240-209339-2019-0446	66,383
Special Education - Preschool Grants (IDEA Preschool)	84.173	262-317585-2020-0446	<u>1,507</u>
		Total Special Education Cluster	<u>382,302</u>
Title I Grants to Local Educational Agencies (LEAs)	84.010	305-314656-2020-0446	186,014
Title I Grants to Local Educational Agencies (LEAs) 2019 Carry Over	84.010	305-237938-2019-0446	9,567
Supporting Effective Instruction State Grant	84.367	340-314657-2020-0446	35,406
English Language Acquisition Grants	84.366	180-314658-2020-0446	11,485
English Language Acquisition Grants	84.363	180-209340-2019-0446	3,964
Student Support and Academic Enrichment Grants	84.424	309-314659-2020-0446	11,973
Student Support and Academic Enrichment Grants	84.424	309-237941-2019-0446	<u>1,940</u>
		Total U.S. Department of Education	<u>642,651</u>
<i>U.S. Department of Agriculture</i>			
Passed through the Massachusetts Department of Elementary and Secondary Education			
Child Nutrition Cluster			
School Breakfast Program (SBP)	10.553	DOENUT2020SL	45,864
National School Lunch Program	10.555	DOENUT2020SL	<u>168,017</u>
		Total Child Nutrition Cluster	<u>213,881</u>
		Total U.S. Department of Agriculture	<u>213,881</u>
		Total expenditures of federal awards	<u>\$ 856,532</u>

Revised draft 8-26-20 for discussion only

See accompanying notes to schedule of federal expenditures

Foxborough Regional Charter School
Notes to the Schedule of Expenditures of Federal Awards
June 30, 2020

1. *Basis of Presentation*

The accompanying Schedule of Expenditures of Federal Awards (the Schedule) includes the federal awards activity of Foxborough Regional Charter School (the School), under programs of the Federal government for the year ended June 30, 2020. The information in the Schedule is presented in accordance with the requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the Schedule presents only a selected portion of the operations of the School, it is not intended to and does not present the financial position, changes in net position or cash flows of the School.

2. *Summary of Significant Accounting Policies*

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

The School has elected not to use the 10 percent de minimus indirect cost rate allowed under the Uniform Guidance.

3. *Subrecipients*

There were no pass through federal awards to subrecipients by the School during fiscal year 2020.

Revised draft 8-26-20 for discussion only

**REPORT ON COMPLIANCE AND
INTERNAL CONTROL IN ACCORDANCE
WITH
GOVERNMENT AUDITING STANDARDS**

Revised draft 8-26-20 for discussion only



DANIEL DENNIS & Co
Certified Public Accountants

*Independent Auditor's Report On Internal Control Over Financial Reporting And On Compliance
And Other Matters Based On An Audit Of Financial Statements Performed In Accordance With
Government Auditing Standards*

The Board of Trustees of
Foxborough Regional Charter School

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Foxborough Regional Charter School, (the School) as of and for the year ended June 30, 2020, and the statements of revenue, expenses and changes in net position and cash flows and the related notes to the financial statements, which comprise the School's financial statements and have issued our report thereon dated **Open Date**.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the School's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the School's internal control. Accordingly, we do not express an opinion on the effectiveness of the School's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the School's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the School's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the School's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Open Date

Revised draft 8-26-20 for discussion only

**REPORT IN ACCORDANCE
WITH
THE UNIFORM GUIDANCE**

Revised draft 8-26-20 for discussion only



DANIEL DENNIS & Co
Certified Public Accountants

Independent Auditors' Report On Compliance For Each Major Program And On Internal Control Over Compliance Required by the Uniform Guidance

The Board of Trustees of
Foxborough Regional Charter School

Report on Compliance for Each Major Federal Program

We have audited Foxborough Regional Charter School's (the School) compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on the School's major federal program for the year ended June 30, 2020. The School's major federal program is identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for the School's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the School's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the School's compliance.

Opinion on the Major Federal Program

In our opinion, the School, complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended June 30, 2020.

Report on Internal Control Over Compliance

Management of the School is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the School's internal control over compliance with the types of requirements that could have a direct and material effect on its major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for its major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the School's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Open Date

**SCHEDULE OF FINDINGS
QUESTIONED COSTS**

Revised draft 8-26-20 for discussion only

Foxborough Regional Charter School
 Schedule of Findings and Questioned Costs
 For the Year Ended June 30, 2020

Section I – SUMMARY OF AUDITOR’S RESULTS

Financial Statements

Type of auditors’ report issued: Unmodified

Internal control over financial reporting:

- **Material weakness (es) identified?** No
- **Significant deficiency (ies) identified that are not considered to be material weaknesses?** None reported

Noncompliance which is material to financial statements noted? No

Federal Awards

Internal control over major programs:

- **Material weakness (es) identified?** No
- **Significant deficiency (ies) identified that are not considered to be material weaknesses?** None reported

Type of auditor’s report issued Unmodified

Any audit findings disclosed that are required to be reported in accordance with 20 CFR section 200.516(a)? No

Identification of major programs:

<i>CFDA Number</i>	<i>Name of Federal Programs and Clusters</i>
	<u><i>Special Education Cluster</i></u>
84.027	Special Education - Grants to States (IDEA, Part B)
84.173	Special Education - Preschool Grants (IDEA Preschool)

Dollar threshold used to distinguish between type A and type B programs: \$750,000

Auditee qualified as low-risk auditee? No

Revised draft 8/26/20 for discussion only

Foxborough Regional Charter School
Schedule of Findings and Questioned Costs – *Continued*
For the Year Ended June 30, 2020

Section II - FINANCIAL STATEMENT FINDINGS

A. Deficiencies in Internal Control over Financial Reporting

None

B. Material Fraud and Noncompliance with Provisions of Laws and Regulations

None

C. Material Noncompliance with Provisions of Contracts and Grant Agreements

None

D. Material Abuse

None

Section III - FEDERAL AWARD FINDINGS AND QUESTIONED COSTS

None

Revised draft 8-26-20 for discussion only

Foxborough Regional Charter School
Summary Schedule of Prior Audit Findings
For the Year Ended June 30, 2020

There were no unresolved audit findings from prior year's audit.

Revised draft 8-26-20 for discussion only

BOARD ACCEPTANCE LETTER

Revised draft 8-26-20 for discussion only

ACCEPTANCE OF THE BOARD OF TRUSTEES

We, the Board of Trustees of Foxborough Regional Charter School have voted to accept the representations of management and the expression of the opinions made by Daniel Dennis & Company LLP as embodied in the combined financial statements and independent auditors reports for the year ended June 30, 2020.

We also certify that the representations made by management and the disclosures in the combined financial statements are accurate and have been correctly and completely disclosed as required by accounting principles generally accepted in the United States of America and the Commonwealth of Massachusetts Charter School Audit Guide for the year ended June 30, 2020.

Board President or Treasurer
Or Other Designated Person

Date

Revised draft 8-26-20 for discussion only



Arden Engineering Constructors, LLC

505 Narragansett Park Drive
Pawtucket, RI 02861
Phone: (401) 727-3500
Fax: (401) 727-3540

August 24, 2020

Foxborough Regional Charter School
131 Central Street
Foxborough, MA 02035

Site Address:
Elementary School
Middle and High Schools

Attention: **Mr. Kevin Heayden**
Facilities Manager

Project Name: **Ultraviolet Lighting Probes Installation and Plasma Scrubbers Installation**

Dear Kevin:

Arden is pleased to present you with a proposal to furnish and install fifteen (15) ultraviolet systems in the air handling units that serve the High School, Middle School, and Elementary School. In addition, we will install three (3) air purification scrubbers, one in each nurse's station in each school. Our proposal offers you a turnkey installation consisting of all electrical, sheet metal, and materials necessary. Specifically, we will perform the following scope of work:

New Equipment / Materials:

Equipment	Manufacturer	Area Served	Notes
Airborne Duct System w/ High Output Lamps	Fresh-Aire UV	High School (6 Units) & Middle School (5 Units)	With Interlock Switch and Access Door
Airborne Duct System	Fresh-Aire UV	High School (6 Units) & Middle School (5 Units)	With Interlock Switch and Access Door
Airborne Duct System	Fresh-Aire UV	High School (6 Units) & Middle School (5 Units)	With Interlock Switch and Access Door
Airborne Duct System	Fresh-Aire UV	High School (6 Units) & Middle School (5 Units)	With Interlock Switch and Access Door
Air Purification Scrubber	Plasma Air International	Typical Classroom	Ductless, Ceiling -Mounted

Scope of Service

- Furnish and install fifteen (15) double lamp configuration, in-duct, single pass, high output germicidal ultraviolet lamps with viewport, one per packaged RTU, as listed above
 - Lamps will have an interlock door switch to prevent lights from operating when servicing
 - Lamps to be installed in the RTU ducts above the drop ceiling
 - Control panel will have a BACNet card for future tie-into the BMS system
- Furnish and install access doors in the duct to service lamps
- Run power wiring to each lamp
- Test and startup systems to ensure proper operation
- Place units back online
- Perform project management and trades coordination
- Pull electrical permit
- Furnish and install three (3) plasma air purification scrubbers, one in each nurse's room

Total Price for the above work.....\$149,102.00

Notes/Clarifications/Exclusions:

1. Proposal excludes State taxes
2. Any service not listed is excluded
3. Work is quoted as being performed during normal business hours
4. Proposal includes freight for delivery
5. See attached sheet, below, for additional Terms and Conditions

Thank you for the opportunity to quote your mechanical and electrical service needs. I am available at (401)-727-3500 to address your questions.

Sincerely,

Joseph A. Hoey
Account Manager
Arden

This proposal is valid 90 days from August 24, 2020.

This agreement is subject to the attached Terms and Conditions.

CUSTOMER ACCEPTANCE

Arden Engineering Constructors, LLC

Authorized Representative

Authorized Representative

Title

Title

Acceptance Date

Signature Date

505 Narragansett Park Drive, Pawtucket, Rhode Island 02861 Tel (401) 727-3500 Fax (401) 727-3540 www.ardeneng.com

An Equal Opportunity Employer

Rhode Island

Master Mechanical #105 & #1409
Fire Sprinkler Contractor #327
Master Plumber #1094
Refrigeration & Pipefitter Journey #RJ1 & #PJ1
NEBB #2807
Master Electrician #A-003439 & #B-007513

Massachusetts

Master Pipefitter #8590
Master Plumber, Plumbing Contractor #6780
Sprinkler Contractor #002774
Refrigeration Contractor #689

Connecticut

Heating/Cooling Unlimited Contractor #302950 & #302953
Plumber Unlimited Contractor P-1 #202296

Arden Engineering Constructors General Provisions for Service Projects

Services provided under this agreement will be performed during normal working hours.

The guarantees and services provided under the scope of this agreement are conditioned upon Customer operating and maintaining systems/equipment. Customer will do so in according to industry-accepted practices and in consideration of our recommendations.

Customer will provide and permit reasonable access to all covered equipment. Arden Engineering Constructors will be allowed to start and stop equipment as necessary to perform its services and be permitted use of existing facilities and building services.

In the unlikely event of failure to perform its obligations, Arden Engineering Constructors' liability is limited to repair or replacement at its option, and such shall be Customer's sole remedy. Under no circumstances will Arden Engineering Constructors be responsible for loss of use, loss of profits, increased operating or maintenance expense, claims of Customer's tenants or clients, or any special, indirect or consequential damages.

The agreement does not include responsibility for system design deficiencies, such as, but not limited to poor air distribution, water flow imbalances, etc. It does not include responsibility for system, equipment and component obsolescence, electrical failures, unserviceable equipment, and operating the system(s).

Arden Engineering Constructors will not be liable for delays or failure to obligate due to fire, flood, strike, lockout, freezing, unavailability of material, riots, acts of God, or any cause beyond reasonable control.

Arden Engineering Constructors is not responsible for the removal or disposal of any hazardous materials including but not limited to asbestos or medical waste or any cost associated with these materials unless otherwise noted in this Agreement.

Arden Engineering Constructors shall not be required to furnish any items of equipment, labor, or make special tests recommended or required by insurance companies, Federal State Municipal or other authorities except as otherwise included in this Agreement.

In the event either party must commence a legal action in order to enforce any rights under this contract, the successful party shall be entitled to all court costs and reasonable attorney's fees as determined by the court for prosecuting and defending the claim, as the case may be.

Arden Engineering Constructors shall not be liable for the operation of the equipment nor for injuries to persons or damage to property, except those directly due to the negligent acts or omissions of its employees and in no event shall it be liable for consequential or speculative damages. It shall not be liable for expense incurred in removing, replacing or refinishing any part of the building structure necessary to the execution of this Agreement. It shall not be held liable for any loss by reason of strikes or labor troubles affecting its employees who perform the service called for herein, delays in transportation, delays caused by priority or preference rating, or orders or regulations established by any government, authority, or by unusual delays in procuring supplies or for any other cause beyond its reasonable control.

Only Arden Engineering Constructors' personnel or agent are authorized to perform the work included in the scope of this Agreement. Arden Engineering Constructors may, at its option, cancel or waive its obligations under this Agreement should non-authorized individuals perform such work.

This Agreement and all rights hereunder shall not be assignable unless approved by Arden Engineering Constructors.

In the event of additional freight, labor, or material costs resulting from a Customer's request to avoid delays with respect to equipment warranties, or accelerated delivery of parts and supplies, the Customer agrees to pay these additional costs at Arden Engineering Constructors' currently established rates.

Arden Engineering Constructors' scope of work shall not include the identification, detection, abatement, encapsulation or removal of asbestos or products or materials containing asbestos or similar hazardous substances. In the event Arden Engineering Constructors encounters such material in performing its work, Arden Engineering Constructors will have the right to discontinue work and remove its employees until the hazard is corrected or its determined no hazard exists.

This Agreement contains the entire Contract and the parties hereby agree that this Agreement has been agreed to and the entire Agreement is then accepted and approved by an authorized person for both parties, and no statement, remark, agreement or, understanding, oral or written, not contained herein, will be recognized or enforced.

This agreement does not include the disposal of hazardous waste; any charges incurred for their proper disposal will be born by the customer as an extra to the contract price.

The Customer acknowledges and agrees that any purchase order issued by Customer, in accordance with this Agreement, is intended only to establish payment authority for Customer's internal accounting purposes. No purchase order shall be considered to be a counteroffer, amendment, modification, or other revision to the terms of this agreement.

Arden Engineering warrants labor on all service installations for thirty days after installation or beneficial use of equipment or service. Warranty on all material provided and / or installed shall equal that as provided by the specific individual equipment manufacturer.

Should the contract be canceled without due cause, the Customer shall pay Arden Engineering Constructors 25% of the total sum price in addition to any previous amount paid.

505 Narragansett Park Drive, Pawtucket, Rhode Island 02861 Tel (401) 727-3500 Fax (401) 727-3540 www.ardeneng.com

An Equal Opportunity Employer

Rhode Island

Master Mechanical	#105 & #1409
Fire Sprinkler Contractor	#327
Master Plumber	#1094
Refrigeration & Pipefitter Journey	#RJ1 & #PJ1
NEBB	#2807
Master Electrician	#A-003439 & #B-007513

Massachusetts

Master Pipefitter	#8590
Master Plumber, Plumbing Contractor	#6780
Sprinkler Contractor	#002774
Refrigeration Contractor	#689

Connecticut

Heating/Cooling Unlimited Contractor	#302950 & #302953
Plumber Unlimited Contractor P-1	#202296

How HVAC Can Help Prevent the Spread of Contagious Diseases

Ultraviolet systems keep HVAC equipment, airstream free of pathogens and fight superbugs

BY MARIA TAYLOR
THE NEWS STAFF

A sick person sneezes. Even in a well-ventilated room, airborne droplets containing infectious agents can remain viable for as long as six minutes.

One infectious disease that's been in the headlines this year is measles, which has made a comeback since being declared eliminated in the U.S. in 2000. In the first half of 2019 (Jan. 1 to July 11), 1,123 individual cases of measles were confirmed in 28 states across America. Per the Center for Disease Control (CDC), it's the largest number of cases reported in the U.S. since 1992.

Measles is a highly contagious virus, and it lives in the mucus of the person who's infected. It spreads through coughing and sneezing. When someone coughs or sneezes, the virus can linger for two hours.

"If other people breathe the contaminated air or touch the infected surface, then touch their eyes, noses, or mouths, they can become infected," wrote the American Red Cross. "Measles is so contagious that if one person has it, 90 percent of the people close to that person who are not immune will also become infected."

Unless precautions are taken, the virus — or any pathogen, really — can be distributed throughout a building by the HVAC system, or even recirculated through the ductwork. One way to reduce that risk is through the use of technology that employs UV-C (short-wavelength ultraviolet) light.

Ashish Mathur is vice president of innovation and technology at UVDI, a technology supplier to Johnson Controls Inc.

"There is peer-reviewed literature giving evidence of UV-C effectiveness in reducing measles transmission," he said. "UV-C is typically combined with conventional air quality control methods, including dilution, ventilation, and particulate filtration, to optimize cost, energy use, and performance."

A BRIEF HISTORY

Ultraviolet germicidal irradiation, or UVGI, is a method of disinfection using UV-C germicidal light at the 254-nanometer (nm) frequency to kill or deactivate microorganisms. Introduced in the late 1800s, it first came onto the scene in 1903, when Danish scientist Niels Finsen received a Nobel Prize for medicine for using UV-C light to combat tuberculosis.

UVGI was used for water disinfection in the early 1900s, and for both water and airstream disinfection in the post-WWII era. However, it fell out of favor in the 1960s as new antibiotics and cleaning agents came to market and mechanical ventilation in buildings improved. In the 1990s, demand for the germicidal technology returned, following a resurgence of antibiotic-resistant germs.

"The UV-C 254-nm germicidal wavelength carries enough ionizing energy to permanently alter cell DNA — including superbugs and other antibiotic-resistant germs — ultimately killing the cell and making replication impossible," said Daniel Jones, president, UV Resources. "In other words, no known microorganisms are completely resistant to the physical effects of the UV-C frequency, and microbes cannot develop a 'resistance' to this energy form."

In 2017, a randomized trial led by Duke Health found that UV-C energy cut transmission of four superbugs by 30 percent. Similar results were demonstrated in a 2013 CDC-funded study that found UVGI reduced the total number of colony-forming units of any pathogen in a hospital room by 91 percent.

"ASHRAE, too, has recognized that the UV-C wavelength inactivates virtually all microorganisms living on HVACR surfaces with a kill ratio of 90 percent or higher, depending on UV-C intensity and length of exposure," Jones said.

That inclusion of the technology in the ASHRAE handbook, in 2008, was what made UV the de facto technology, in conjunction with

filtration, for improved IAQ and equipment efficiency, added Aaron Engel, vice president of business development, Fresh-Aire UV.

As of 2000, approximately 60 percent of all UVGI air disinfection systems were installed in health care facilities: 41 percent in hospitals and 19 percent in clinics.

"However, over the past 12 to 15 years, it has been realized that the benefits of UV-C (energy savings, reduced maintenance,



DISEASE FIGHTING: ASHRAE has recognized that the UV-C wavelength inactivates virtually all microorganisms living on HVACR surfaces with a kill ratio of 90 percent or higher, depending on UV-C intensity and length of exposure.

In Stock and Ready to Ship



Water-Source Heat Pumps



VV Series Vertical



WH Series Horizontal



Bottom Access with Horizontal Configuration

- AHRI Certified Performance
- ½ to 5 ton in Horizontal and Vertical Configurations
- All Aluminum Construction Standard!
Light Weight and Superior Corrosion Resistance
- Microchannel Indoor Coil Standard!
High Efficiency and Reduced Weight
- Easy Service Access Standard!
- Replacement Ready Configurations
Over 2,500 Units Stocked and Ready to Ship

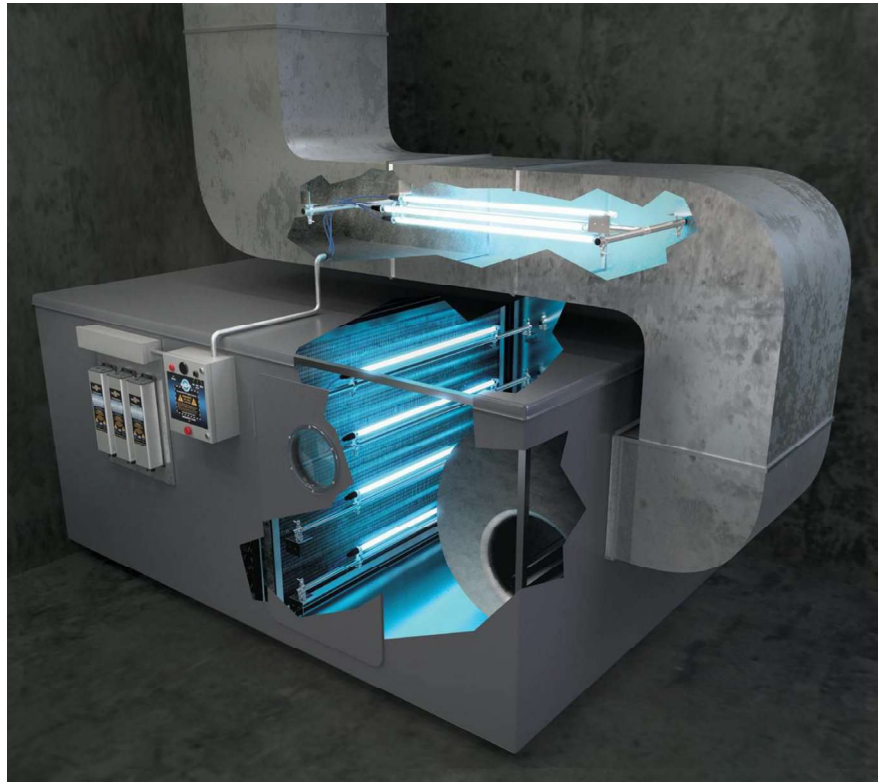
Contact your local AAON Representative about AHRI Certified AAON WSHP Solutions Today!

www.AAON.com/RepSearch

HVAC CONTRACTING



SANITARY SPACE: UV technology, like the glowing blue upper-air fixture on the wall in this surgery room, can reduce the risk of hospital-acquired infections.



FROM THE INSIDE OUT: UV lights can be placed inside an AHU to disinfect the airstream.

and improved IAQ) are not solely reserved for the health care setting,” said Jones.

That, coupled with the fact that UV-C can kill virtually any microbe including viruses, has resulted in the significant growth of UVGI systems in residential, commercial, and industrial applications. Common applications include schools, office buildings, airports, senior living, dental offices, greenhouses, and veterinarian offices: high-traffic spaces where airborne microorganisms are prevalent and IAQ is becoming more of a concern.

“Everywhere from homeless shelters, where the population’s exposure to infectious diseases is unknown, to college campuses, where facility managers are looking to mitigate the spread of infectious diseases among a population that are in close quarters daily,” Jones said.

One example is Schenectady County Community College, where upper air fixtures were deployed in multiple locations including the daycare center, cafeteria, café, and the student forum and lounge, where large numbers of students congregate. It’s also used for disinfecting municipal drinking water and wastewater treatment, as a greener alternative to chlorine disinfection.

HOW IT WORKS

Typically, UVGI systems are employed in three configurations: cooling coil disinfection, duct and upper air airstream disinfection, and whole-room surface disinfection.

Coil-irradiation and airstream disinfection systems are installed within HVAC equipment and help maintain a clean evaporator coil, drain pan, and surfaces, preventing mold and other contamination from being introduced into the airstream via the HVAC equipment.

“The coil and surrounding area are often the source of microbial contamination,” said Engel. “Maintaining a clean AHU [air-handling unit] will ultimately reduce what is introduced into the air.”

As well as improving air quality by continually ensuring the airstream is clean when it leaves the equipment, coil-mounted systems can potentially save energy.

“The insulating nature of biofilm can ... increase static pressure and reduce heat transfer across the coil fins,” Engel said. “The microbial coating causes the system to work harder, and resulting biological blow-off is then distributed back into the facility.”

Keeping cooling coils in AHUs free of biofilm buildup can reduce pressure drop across the coils and improve the efficiency of the heat exchanger.

“Commercial IAQ problems vary from application to application, but they often stem from a poorly maintained HVAC system, whose organic-rich environment is an ideal breeding ground for microbial buildup on surfaces and in the airstreams they condition,” Jones said. “Thus, this is one of the first areas that a contractor should check when isolating an IAQ problem.”

In-duct and upper-air systems keep the air clean once it’s circulating. They are installed in waiting rooms, classrooms, cafeterias, gymnasiums, locker rooms, child care centers, emergency rooms — anywhere infectious agents may exist, Jones said.

Upper-air systems are installed in occupied spaces to control bio-aerosols in the upper part of an occupied room.

“In-duct UVC systems distribute UV energy uniformly in all directions throughout the length of the UV duct or AHU [in which they are installed] to deliver the appropriate UV dose to air moving through the irradiated zone,” explained Mathur.

Typically, upper-room fixtures are wall mounted at a height of 7 feet or above and employ louvers to direct the UV-C energy emitted from the lamp upward and outward to create an intense zone of the UV-C wavelength in the upper-air while preventing dosage in the lower (occupied) portion of the room or area, Jones said.

“Operating 24 hours a day, upper-air/room systems can use the natural convection of airflow or mechanically directed airflow in a room to bring potentially infectious microbes through the intense germicidal energy produced by the UV-C fixture,” he said. “Microbes exposed to UV-C can be ‘killed’ in under a second, and these units have been shown to be effective against airborne viruses and bacteria, including chickenpox, measles, mumps, varicella, TB, and cold viruses.”

Upper-air/room UV-C fixtures can also prevent cross-contamination and kill pathogens circulated by cleaning, coughing, sneezing, people entering or leaving a room, or the changing of bed linens.

UV-C disinfection catches what HEPA filters can’t, Engel said.

“Viruses and certain bacteria are so small that they pass through even the highest-efficiency filter like

sand through a tennis racket,” he pointed out. “UV-C disinfection is the perfect complement to conventional filtration. The filter removes the particulates from the air, and the UV-C energy deactivates the microorganisms that pass through the filter that would have otherwise been distributed through the HVAC system.”

Coil-mounted and in-duct/upper-air systems work in tandem.

“Installing UV systems in the air handler section will achieve immediate results by disinfecting coil and other surfaces within the AHU (typically within an hour) but will require time for the UV-C light to penetrate deep into the coil, breaking down the biofilm,” Engel said.

How long it will take for the UV-C light to penetrate through the coil depends on how fouled the coil may be.

“Best practices would be to clean the coil first or install the UV system on a new unit,” Engel continued. “If that is not an option, it may take up to a few weeks to months for the UV-C light to break down the biocontaminants within the evaporator coil itself.”

In addition, portable UV-C devices have gained increasing acceptance for whole-room disinfection in hospital settings to reduce nosocomial infections



UV APPLICATIONS: Common applications of UV technology include schools, office buildings, airports, senior living, dental offices, greenhouses, and veterinarian offices.

from candida auris and drug-resistant microorganisms such as MRSA, VRE, and C. difficile, Mathur said.

KEEPING THE LIGHTS ON

Once installed, UV systems require minimal maintenance and only periodic inspection.

“Because of the nature of UV installations, very little maintenance is required beyond a one- to two-year lamp replacement schedule,” said Engel. “Periodic monitoring of

the UV-C lamps should be done to make sure the UV lamps are not fouled and that all wiring and mounting is secure.”

Regardless of their make or model, all UV-C lamps will lose output over time, Jones said.

“It’s also been established that this, in most cases, will not be evident from visual inspection, but the resulting effects on performance could negatively impact energy efficiency and IAQ,” he said. “Quality lamps will still emit at least 80 percent of their original UV-C

PUBLIC SAFETY: A UV system is installed on a college campus, a high-traffic area where airborne microorganisms are prevalent..

germicidal output rating at the end of one year, but it will be a matter of time before they, too, lose effectiveness.”

Typically, high-output lamps can be replaced at less than 3 cents per cfm.

“As examples, upper-air UV units cost as little as \$3.00 to \$3.50 per square foot of treated space,” Jones said. “Airstream disinfection systems range from 60 cents to 80 cents per cfm, and HVAC surface disinfection systems are approximately 10 cents to 15 cents per cfm.”

By 2020, the total market for UV systems is estimated to be worth nearly \$3 billion, Jones said.

“The global growth rate for microbial ultraviolet disinfection equipment has been increasing annually as more facility managers and building engineers recognize its energy savings and decontamination value,” he said.

Part of that growth has to do with UV spreading from commercial uses to residential.

“While commercial contractors were early adopters of UV-C technology because of the scale of potential energy savings, residential contractors have also embraced UV-C to provide better indoor air quality and performance efficiencies,” Jones continued. “In particular, residential contractors have realized that there is a financial benefit to their business in offering UV as an indoor air quality solution, while at the same time increasing their margin on each service call.”



2 OUT OF 3 WILL BUY WHEN OFFERED!

- ✓ LIFETIME WARRANTY
 - ✓ QUICKEST INSTALLATION
 - ✓ 100% SATISFACTION GUARANTEE OR WE BUY IT BACK
- ORDER TODAY!**



SALES@ARZELZONING.COM P: 800-611-3212 FOLLOW US: f in t

eProduct #27 at achrnews.com

Who Says You Can't Pick Your Family?

Join the Enertech family and get access to high-quality residential and commercial geothermal and water-source heat pumps.



- 30%-50% savings on operational heating and cooling cost
- Dedicated customer and technical support
- Commercial selection software, REVIT files, & design support
- Training opportunities for continued development
- Products designed by contractor advisory groups



Watch a tour of our facility to see how Enertech builds heat pumps that last: info.enertechusa.com/enertech-difference



eProduct #28 at achrnews.com



Correspondence

How can airborne transmission of COVID-19 indoors be minimised?



ARTICLE INFO

Handling Editor: Adrian Covaci

ABSTRACT

During the rapid rise in COVID-19 illnesses and deaths globally, and notwithstanding recommended precautions, questions are voiced about routes of transmission for this pandemic disease. Inhaling small airborne droplets is probable as a third route of infection, in addition to more widely recognized transmission via larger respiratory droplets and direct contact with infected people or contaminated surfaces. While uncertainties remain regarding the relative contributions of the different transmission pathways, we argue that existing evidence is sufficiently strong to warrant engineering controls targeting airborne transmission as part of an overall strategy to limit infection risk indoors. Appropriate building engineering controls include sufficient and effective ventilation, possibly enhanced by particle filtration and air disinfection, avoiding air recirculation and avoiding overcrowding. Often, such measures can be easily implemented and without much cost, but if only they are recognised as significant in contributing to infection control goals. We believe that the use of engineering controls in public buildings, including hospitals, shops, offices, schools, kindergartens, libraries, restaurants, cruise ships, elevators, conference rooms or public transport, in parallel with effective application of other controls (including isolation and quarantine, social distancing and hand hygiene), would be an additional important measure globally to reduce the likelihood of transmission and thereby protect healthcare workers, patients and the general public.

1. Recognising the potential for the airborne transmission of SARS-CoV-2

The significance of viral transmission via small airborne microdroplets (also commonly referred to as ‘aerosols’) has been intensely discussed in the context of the SARS-CoV-2/COVID-19 (severe acute respiratory syndrome coronavirus-2/coronavirus disease 2019) pandemic (Lewis, 2020; Morawska and Cao, 2020). This is one of three commonly accepted modes of viral transmission, the other two being via larger respiratory droplets (which fall close to where they are expired), and direct contact with contaminated surfaces (fomites). Especially with the ongoing global shortage of personal protective equipment (mainly surgical masks and N95/FFP2/FFP3 respirators) (WHO, 2020c), additional methods to reduce the risk of SARS-CoV-2 transmission indoors need to be considered. The need is acute in particular in hospitals and other healthcare facilities managing COVID-19 patients.

While evidence for airborne transmission of COVID-19 is currently incomplete, several hospital-based studies have performed air-sampling for SARS-CoV-2, including one published paper (Ong et al., 2020), one early-release paper (Guo et al., 2020) and 5 papers still in pre-print at the time of writing (Chia et al., 2020; Ding et al., 2020; Jiang et al., 2019; Liu et al., 2020; Santarpia et al., 2020). Four of these studies found several positive samples for SARS-CoV-2 genome (RNA) in air using polymerase chain reaction (PCR) testing (Chia et al., 2020; Jiang et al., 2019; Liu et al., 2020; Santarpia et al., 2020), two found very small numbers of positive samples (Ding et al., 2020), and only one (Ong et al., 2020) found no positive air samples. This evidence at least demonstrates a *potential* risk for airborne transmission of SARS-CoV-2.

In addition, amongst these studies, three also reported some quantitative viral RNA data. The Singaporean study found positive air samples in 2 of the 3 patient infection isolation rooms, with samples in

the 1–4 μm and $> 4 \mu\text{m}$ size ranges containing a range of viral loads (1.8–3.4 viral RNA copies per L of air) (Chia et al., 2020). The study from Nebraska, USA found that 63% of the air samples were positive with a mean viral load of 2.9 copies/L, including in patient rooms and the hallway air (Santarpia et al., 2020). In one case, they sampled close to the patient (mean: 4.1 copies/L) and at $> 1.8 \text{ m}$ (mean: 2.5 copies/L), suggesting some dilution with distance. The highest viral loads were found in personal samplers worn by the sampling team when in the presence of a patient receiving oxygen via nasal cannula (mean: 19 and 48 copies/L), indicating that this treatment may promote the spread of airborne virus. A study in Wuhan, China (Liu et al., 2020) provides quantitative data for their small number of positive air samples, with 0.02 RNA copies/L in a toilet area and 0.02–0.04 copies/L in a room used to remove PPE. More than half the viral RNA in these samples was associated with aerosols $< 2.5 \mu\text{m}$. This study also measured deposition through passive aerosol sampling, reporting deposition rates of 31 and 113 RNA copies/ m^2 per h at samplers located approximately 2 m and 3 m from the patients, respectively (Liu et al., 2020).

Whilst this evidence may be deemed to be incomplete at present, more will arise as the COVID-19 pandemic continues. In contrast, the end-stage pathway to infection of the droplet and contact transmission routes has always been assumed to be via self-inoculation into mucous membranes (of the eyes, nose and mouth). Surprisingly, no direct confirmatory evidence of this phenomenon has been reported, e.g. where there have been: (i) follow-up of fomite or droplet-contaminated fingers of a host, self-inoculated to the mucous membranes to cause infection, through the related disease incubation period, to the development of disease, and (ii) followed by diagnostic sampling, detection, sequencing and phylogenetic analysis of that pathogen genome to then match the sample pathogen sequence back to that in the original fomite or droplet. It is scientifically incongruous that the level of evidence

<https://doi.org/10.1016/j.envint.2020.105832>

Received 22 April 2020; Received in revised form 21 May 2020; Accepted 21 May 2020

Available online 27 May 2020

0160-4120/© 2020 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

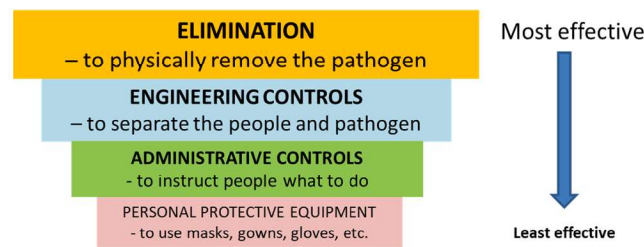


Fig. 1. Traditional infection control pyramid adapted from the US Centers for Disease Control (CDC, 2015).

required to demonstrate airborne transmission is so much higher than for these other transmission modes (Morawska et al., 2020).

The infectious agents of several other diseases (tuberculosis, measles, chickenpox) are recognised to be transmissible via the airborne route, either by the short-range (face-to-face, conversational exposure) or by longer-range aerosols (Department of Health, 2015; Tellier et al., 2019). Measles and varicella zoster (the virus causing chickenpox) can also be efficiently transmitted through direct contact during their acute phase of infection (e.g. by kissing). During a close contact situation, all transmission routes can be potentially responsible for infection.

For other respiratory viruses, including SARS-CoV, MERS-CoV (Middle-East Respiratory Syndrome coronavirus), respiratory syncytial virus (RSV – a common cause of bronchiolitis in infants) and influenza, both short-range and longer-range airborne transmission are possible, but the predominance of longer range transmission route in various exposure scenarios is difficult to quantify (Booth et al., 2013; Kim et al., 2016; Kulkarni et al., 2016; Li et al., 2007; Tellier et al., 2019), and may at times be opportunistic (Roy and Milton, 2004).

A recent mechanistic modelling study showed that short-range airborne transmission dominates exposure during close contact (Chen et al., 2020). Other studies investigating the transport of human-expired microdroplets and airflow patterns between people also provide substantive support for this transmission route (Ai et al., 2019; Li et al., 2007; Liu et al., 2017). Therefore, in light of this body of evidence for these other respiratory viruses; we believe that SARS-CoV-2 should not be treated any differently – with at least the potential for airborne transmission indoors.

Yet despite this, international health organisations, like the WHO (World Health Organization) (WHO, 2020b), continue to place insufficient emphasis on protection from small, virus laden, airborne droplets. Other organisations that deal with building environmental control systems, such as REHVA (the Federation of European Heating, Ventilation and Air Conditioning Associations) and ASHRAE (the American Society of Heating, Ventilating, and Air-Conditioning Engineers), have acknowledged the potential airborne hazard indoors and recommended ventilation control measures accordingly (ASHRAE, 2020a; REHVA, 2020).

Infection control specialists also often inquire about the relative contribution of airborne transmission compared to the other transmission modes ('contact' and 'droplet'). Multiple studies provide strong evidence for indoor airborne transmission of viruses, particularly in crowded, poorly ventilated environments (Coleman et al., 2018; Distasio et al., 1990; Knibbs et al., 2012; Li et al., 2005; Moser et al., 1979; Nishiura et al., 2020). However, it is generally difficult to quantitatively compare and conclude which transmission route is the most significant in a given situation. Infection may occur via all routes to different degrees depending on the specific exposure circumstances. Effective infection control necessitates protection against all potentially important exposure pathways.

Here, in the face of such uncertainty, we argue that the benefits of an effective ventilation system, possibly enhanced by particle filtration and air disinfection, for contributing to an overall reduction in the indoor airborne infection risk, are obvious (Eames et al., 2009).

2. Engineering controls to reduce the potential airborne transmission of SARS-CoV-2

To maximise protection of the population against the airborne spread of SARS-CoV-2 and any other airborne virus-containing small microdroplets, several recommendations are necessary as presented below. These focus on indoor environments, because this is where most transmission occurs (Nishiura et al., 2020). Further, the measures mostly apply to public buildings. In residential houses and apartments, normal practices (e.g. segregating infected individuals, opening windows and doors, and using portable air-cleaning devices when practical) to ensure healthy indoor air, should stay in place at any moment.

Ventilation airborne protection measures which already exist can be easily enhanced at a relatively low cost to reduce the number of infections and consequently to save lives. The options discussed below should always be implemented in combination with other existing measures (like hand-washing and use of PPE) to reduce infection via other important routes of transmission, as none of them can be completely excluded in any exposure event. The remainder of this article will only cover recommendations for 'engineering level' controls, as described in the traditional infection control hierarchy (Fig. 1) to reduce the environmental risks for airborne transmission.

2.1. Ventilation should be recognised as a means to reduce airborne transmission

Ventilation is the process of providing outdoor air to a space or building by natural or mechanical means (ISO, 2017). It controls how quickly room air is removed and replaced over a period of time. In some cases, it is necessary to remove pollution from outdoor air before bringing it into a building, by using adequate filtration systems. Ventilation plays a critical role in removing exhaled virus-laden air, thus lowering the overall concentration and therefore any subsequent dose inhaled by the occupants.

Appropriate distribution of ventilation (e.g. placement of supply and exhaust vents) ensures that adequate dilution is achieved where and when needed, avoiding the build-up of viral contamination (Melikov, 2011, 2016; Thatiparti et al., 2016, 2017). The central guiding principle is to replace contaminated air with clean air, but sometimes local barriers to this process may occur, e.g. where partitions are used or curtains drawn for privacy or medical procedures. If these barriers are in use, secondary or auxiliary measures may be needed to achieve requisite ventilation effectiveness.

Good ventilation practices are already in place in many hospital settings, as part of everyday and emergency measures to protect against droplet and contact transmission (Phiri, 2014). Good ventilation also protects the occupants against airborne transmission. The capacity to increase ventilation rates when needed (such as during the COVID-19 pandemic) may differ, and may be somewhat limited by their original design specifications and implementation.

Note that many hospitals are naturally ventilated in ward areas, including in some rooms used for critical care. However, if the airflow passage is obstructed (e.g. by closing windows and doors), airborne pathogen concentration can sharply rise leading to an increased risk of

airborne transmission and infection (Gilkeson et al., 2013). Natural ventilation concepts apply to healthcare facilities in both developed and resource-limited countries in favourable climatic conditions. The design, operation and maintenance of naturally ventilated facilities is not straightforward, and comprehensive guidance is available (WHO, 2009). For instance WHO in March, (WHO, 2020a) specifies that in a COVID-19 infective ward at least 160 L/s/patient have to be provided if natural ventilation is used.

We have recently seen the creation of very large emergency hospital wards, within exhibition centres for example, which house hundreds or even thousands of patients (MSN, 2020). Although these facilities will have mechanical ventilation that is adequate for normal exhibition or conference use, it is not clear if sufficient ventilation will be available for patient management and infection control purposes when they are adapted for such purposes, as during the COVID-19 pandemic.

The situation can be worse in public buildings and other shared spaces, such as shops, offices, schools, kindergartens, libraries, restaurants, cruise ships, elevators, conference rooms or public transport, where ventilation systems can range from purpose-designed mechanical systems to simply relying on open doors and windows. In most of these environments, ventilation rates are significantly lower than in hospitals for various reasons, including limiting airflows for energy and cost savings.

Hence, in such environments, with lower ventilation rates intended primarily to control indoor air quality (which may also include some hospital emergency, acute admissions, general ward and clinic areas) (Booth et al., 2013; Jo et al., 2019; Kulkarni et al., 2016; Rule et al., 2018; Sornboot et al., 2019), the likelihood of infected persons sharing air with susceptible occupants is high, posing an infection risk contributing to the spread of the infectious disease.

Various studies have been performed on the survival of airborne pathogens (Brown et al., 2015; Kim et al., 2016; Kormuth et al., 2018; Kulkarni et al., 2016; Marr et al., 2019; Pyankov et al., 2018; Tang 2009). The SARS-CoV-2 virus has been shown to be stable in airborne particles with a half-life of more than one hour (van Doremalen et al., 2020), so it can potentially be inhaled by susceptible individuals causing infection and further spreading of the disease.

As 'stay-at-home' lockdown measures are gradually relaxed, much of the population may return to spending increasing amounts of time in inadequately ventilated workplaces, offices, schools and other public buildings, where they may be exposed to a risk of acquiring viral infections by inhalation.

2.2. Ventilation rates should be increased by system modifications.

In a mechanically ventilated building, ventilation air is typically provided by a heating, ventilating and air conditioning (HVAC) system. Sometimes, ventilation air is provided by dedicated fans or outdoor air units.

HVAC system control strategies can usually be modified to increase ventilation to a certain extent in the occupied zones, with relatively little additional cost, to reduce the risks of airborne transmission between occupants. However, this is not via a simple 'flick of a switch', as HVAC systems are complex and usually designed for individual buildings within standard specific operating parameters. Many requirements need to be considered apart from the ventilation rate, including control of temperature, relative humidity, air flow distribution and direction.

Such systems can be specifically customised as needed by HVAC engineers, e.g. to reduce the risks of airborne transmission. Indeed, the ventilation guidance of ASHRAE (The American Society of Heating, Refrigerating, and Air-conditioning Engineers), REHVA, SHASE (The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan) have all just been updated to address the spread of COVID-19 (ASHRAE, 2020b; REHVA, 2020; SHASE, 2020). Another example is the modification of a hospital ward ventilation system to create a negative pressure isolation ward (Miller et al., 2017).

If ventilation is provided using windows openings (aeration) or other means (fixed openings, e.g., natural ventilation), an estimation of the possible outdoor flow rate can be made using CEN Standard, EN 16798-7:2017 (CEN, 2017), or other available references as (AIVC, 1996; CIBSE, 2005). The outdoor air flow rate that is achieved is strongly dependent on the specific local conditions (opening sizes, relative positions, climatic and weather conditions, etc.) and should be estimated case by case; it can easily range from 2 up to 50 ACH or more.

For naturally ventilated public buildings, particularly in cold climates, other challenges will arise, but these can also be addressed in order to reduce the risk of airborne infection transmission. It may be necessary to provide additional heating in some buildings to maintain thermal comfort, particularly where the occupants are vulnerable.

2.3. Avoid air recirculation

The recirculation of air is a measure for saving energy, but care must be taken, as it can transport airborne contaminants (including infectious viruses) from one space and distribute them to other spaces connected to the same system, potentially increasing the risk of airborne infection in areas that otherwise would not have been contaminated. This concern has been noted previously in regard to the possible recirculation of biological agents during terrorist attacks that have investigated the effectiveness of eliminating recirculation (e.g. providing 100% outside air to spaces and exhausting all of it) as a countermeasure following an indoor release of the agent (Persily et al., 2007). A study modelling the risk of airborne influenza transmission in passenger cars provided also a case against air recirculation in such situations (Knibbs et al., 2012).

Particulate filters and disinfection equipment in recirculated air streams can reduce this risk, but they need to be purposely designed to control risk of airborne infection and need regular service to maintain their effectiveness. Many systems are designed for filters that are intended to remove larger particles that may affect the functioning of equipment and that are not effective at removing small, sub micrometre or micrometre size particles associated with adverse health effects. Filter ratings by test methods, such as ASHRAE Standard 52.2 (ASHRAE, 2017) that give an indication of performance as a function of particle size should be utilized in choosing appropriate filters.

Following the above considerations, during an epidemic, including the current COVID-19 pandemic, air should not be recirculated as far as practically possible, to avoid the dissemination of virus-laden particles throughout the indoor environment. For central air handling units at a building level or serving multiple zones, recirculation should be avoided, and the system operated on 100% outdoor air (OA) if possible. Disabling recirculation can be achieved by closing the recirculation dampers and opening outdoor air dampers. In systems where it is not possible, one should try to maximize the OA-level and apply filtering or ultraviolet germicidal irradiation to remove or deactivate potential viral contamination from the recirculated air. In many health care settings, air recirculation is, in most cases not allowed at all, though though recirculation is commonly used in non-hospital settings for improving energy efficiency. At a room (decentral) level, secondary air circulation systems may be installed. One needs to assure that any of such systems also provides ventilation with outdoor air (e.g., induction units). If this is the case, such a system should not be switched off. Other systems, which do not have this feature (e.g., split air-conditioning units) should if possible be turned off, to avoid potential transfer of virus through air flows between people. When such a system is needed for cooling then additional ventilation with outdoor air should be secured by regular/periodic ventilation through, e.g., window opening.

2.4. Air cleaning and disinfection devices may be beneficial

In environments where it is difficult to improve ventilation, the addition of local air cleaning or disinfection devices, such as germicidal

ultraviolet (GUV, or UVGI - ultraviolet germicidal irradiation) may offer benefits. Under laboratory conditions GUV has been shown to be effective against a suite of microorganisms including coronaviruses (Walker and Ko, 2007), vaccinia (McDevitt et al., 2007) and *Mycobacteria* (Xu et al., 2003), and even influenza (McDevitt et al., 2012; McLean 1961). Several studies show that inactivation decreases with increased humidity for both bacterial (Xu et al., 2005) and viral aerosols (McDevitt et al., 2012). Darnell et al. (2004) showed that SARS-CoV-1 could be inactivated by UV-C, while Bedell et al. (2016) showed a UV-C decontamination device could inactivate MERS-CoV at 1.22 m, with almost a 6 log reduction in 5 min. There is no data yet for SARS-CoV-2, but the data for other coronaviruses suggest it is highly likely that it is susceptible to UV-C.

One application that grew dramatically during the multi-drug resistant tuberculosis outbreaks of the 1980s (Young and Wormser, 1994), is the 'upper-room' system in which lamps are placed in the upper part of the room, either on the walls or mounted on the ceiling, directing the UV light into the upper zone with louvers and limiting UV exposure in the occupied space (Xu et al., 2005, 2003). Upper-room GUV is a good technology to consider in crowded, poorly ventilated environments where aerosol transmission could occur and where the ability to increase ventilation is limited. Long ago, McLean (1961) presented data showing interruption of influenza transmission in a hospital setting. It has been estimated that upper-room GUV may reduce infection risk by an amount equivalent to doubling the ventilation rate (Noakes et al., 2015). Escombe et al. (2009) showed 77% reduction in human to guinea pig transmission in a hospital setting, while chamber based studies show the effectiveness of GUV against a number of bacterial aerosols (Xu et al., 2005, 2003; Yang et al., 2012). These concur with modelling studies (Gilkeson and Noakes, 2013; Noakes et al., 2004; Sung and Kato, 2010; Yang et al., 2012) showing that the effectiveness depends on the placement of the lamps relative to the ventilation flow and that addition of a ceiling fan enhances GUV effectiveness (Xu et al., 2013; Zhu et al., 2014).

Factors that must be considered when evaluating the ability of upper-room GUV to kill or inactivate airborne microorganisms include the sensitivity of the microorganisms to GUV and the dose received by a microorganism or population of microorganisms. GUV dose is the ultraviolet (UV) irradiance multiplied by the time of exposure and is usually expressed as $\mu\text{W}\cdot\text{s}/\text{cm}^2$. Well-designed upper-room GUV may be effective in killing or inactivating most airborne droplet nuclei containing mycobacteria if designed to provide an average UV fluence rate in the upper room in the range of $30 \mu\text{W}/\text{cm}^2$ to $50 \mu\text{W}/\text{cm}^2$, provided the other elements stipulated in these guidelines are met. In addition, the fixtures should be installed to provide as uniform a UVGI distribution in the upper room as possible (CDC/NIOSH 2009). A zonal infection risk model (Noakes et al., 2015) suggests that an upper-room GUV with a plane average irradiance of $0.2 \text{ W}/\text{m}^2$ at the UV fixtures could be comparable to increasing the ventilation rate from 3 to 6 ACH.

Portable consumer air cleaning devices may be beneficial in smaller rooms, although it should be recognised that such devices must be appropriately sized for the space (Miller-Leiden et al., 1996). There is wide variation in performance of air cleaners depending on air cleaner design and size of room in which it is used (Shaughnessy and Sextro, 2006). A useful metric for determining performance is the clean air delivery rate, which is equivalent to the volumetric flow rate of

particle-free air produced by the air cleaner (Foarde, 1999). Kujundzic et al. (2006) reported air cleaners were similarly effective against removing both airborne bacterial and fungal spores from the air at clean air delivery rates of between 26 and $980 \text{ m}^3/\text{h}$ corresponding to effective cleaning of between 5 and 189 m^3 room volumes respectively.

GUV 'in-duct' application within air-conditioning systems and ventilation ducts may also be a practical approach for disinfecting contaminated extracts or in cases where it is not possible to stop recirculation of ventilation flows (Kujundzic et al., 2007). However, these systems are of little benefit against person-to-person transmission when installed in the supply air of once-through systems that do not recirculate air within the space or building. The US Centers for Disease Control has approved both upper-room and in-duct systems for use in controlling tuberculosis transmission as an adjunct to HEPA filtration (CDC/NIOSH, 2009).

2.5. Minimise the number of people within the same indoor environment in an epidemic

This measure is self-explanatory in the context of the need to lower the concentration of airborne virus-carrying particles, and reduce the number of people who can be exposed at any time. There is no one specific value for a number of people who could share the same space during pandemics, and this measure should be considered in conjunction with the engineering measures discussed above, and particularly in relation to the ventilation parameters of the space. Although the physical distance required to avoid transmission through direct contact dictates the requirements for the floor area per person, the rate of ventilation provided and the efficiency of ventilation are the parameters that control the concentration of virus-laden microdroplets in the air exhaled by the occupants, and will guide decisions on safe occupancy numbers. In a school or a supermarket, for example, if the number of infected students or shoppers is low, and the ventilation rate is high, the risk of airborne transmission can be low. Similarly, during an epidemic, reducing the number of people using public or private transport *at the same time*, e.g. in subway train systems or busses, is part of effective social distancing (Knibbs et al., 2012; Stopera and Stopera, 2020).

3. Conclusions

Until effective pharmacological treatments or vaccines are available to reduce the effective reproductive number to less than 1.0 and stop the ongoing COVID-19 pandemic, enhanced ventilation may be a key element in limiting the spread of the SARS-CoV-2 virus. These are the key ventilation-associated recommendations (see Fig. 2):

- (1) To remind and highlight to building managers and hospital administrators and infection control teams that engineering controls are effective to control and reduce the risks of airborne infection – and SARS-CoV-2 has the potential and is likely to be causing some infections by this route.
- (2) To increase the existing ventilation rates (outdoor air change rate) and enhance ventilation effectiveness - using existing systems.
- (3) To eliminate any air-recirculation within the ventilation system so as to just supply fresh (outdoor) air.

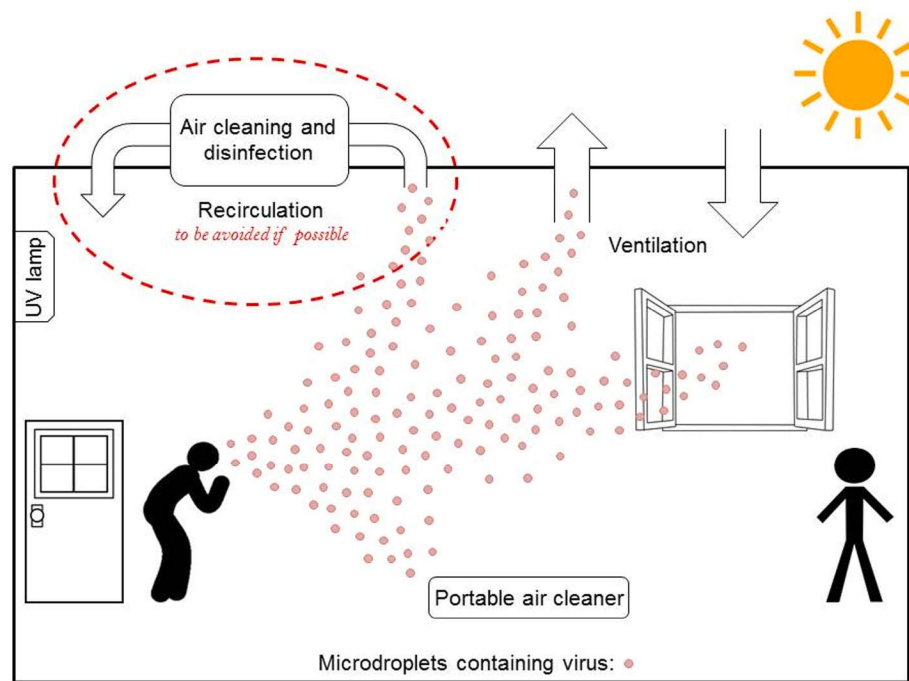


Fig. 2. Engineering level controls to reduce the environmental risks for airborne transmission.

- (4) To supplement existing ventilation with portable air cleaners (with mechanical filtration systems to capture the airborne microdroplets), where there are areas of known air stagnation (which are not well-ventilated with the existing system), or isolate high patient exhaled airborne viral loads (e.g. on COVID-19 cohort patient bays or wards). Adequate replacement of the filters in the air cleaners and their maintenance is crucial.
- (5) To avoid over-crowding, e.g. pupils sitting at every other desk in school classrooms, or customers at every other table in restaurants, or every other seat in public transport, cinemas, etc.

If implemented correctly, these recommended building-related measures will lower the overall environmental concentrations of airborne pathogens and thus will reduce the spread of infection by the airborne route. Together with other guidance on minimising the risk of contact and droplet transmission (through hand-washing, cleaning of hand-touch sites, and the appropriate use of PPE), these ventilation-related interventions will reduce the airborne infection rates not just for SARS-CoV-2 in the current COVID-19 pandemic, but also for other airborne infectious agents.

While much of the focus has been on case finding, isolation and quarantine, social distancing and hand hygiene, we emphasise that a parallel reduction in airborne transmission using such engineering controls in hospitals and other public buildings will further protect healthcare workers, patients and the general public.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Ai, Z., Hashimoto, K., Melikov, A.K., 2019. Airborne transmission between room occupants during short-term events: Measurement and evaluation. *Indoor Air* 29, 563–576.
- AIVC, 1996. A Guide to Energy Efficient Ventilation. Air Infiltration and Ventilation Centre, Brussels.
- ASHRAE, 2017. ASHRAE Standard 52.2-2017 Method of testing general ventilation air-cleaning devices for removal efficiency by particle size.
- ASHRAE, 2020a. COVID-19 (CORONAVIRUS) PREPAREDNESS RESOURCES. American Society of Heating, Ventilating, and Air-Conditioning Engineers.
- ASHRAE, 2020b. Position Document on Airborne Infectious Diseases, Approved by the Board of Directors, January 19, 2014. Reaffirmed by the Technology Council, February 5, 2020. Atlanta, Georgia.
- Bedell, K., Buchaklian, A.H., Perlman, S., 2016. Efficacy of an automated multiple emitter whole-room ultraviolet-C disinfection system against coronaviruses MHV and MERS-CoV. *Infect. Control Hosp. Epidemiol.* 37, 598–599.
- Booth, C.M., Clayton, M., Crook, B., Gawn, J., 2013. Effectiveness of surgical masks against influenza bioaerosols. *J. Hosp. Infect.* 84, 22–26.
- Brown, J., Tang, J., Pankhurst, L., Klein, N., Gant, V., Lai, K., et al., 2015. Influenza virus survival in aerosols and estimates of viable virus loss resulting from aerosolization and air-sampling. *J. Hosp. Infect.* 91, 278–281.
- CDC, 2015. Hierarchy of Controls. Centers for Disease Control and Prevention.
- CDC/NIOSH. 2009. Environmental Control for Tuberculosis: Basic Upper-Room Ultraviolet Germicidal Irradiation Guidelines for Healthcare Settings. Publication No. 2009–105. Department of Health and Human Services, Centers for Disease Control and Prevention & National Institute for Occupational Safety and Health.
- CEN, 2017. Energy performance of buildings – Ventilation for buildings. CEN Standard EN 16798–7: 2017. Part 7: Calculation methods for the determination of air flow rates in buildings including infiltration. European Committee for Standardization, Bruxelles.
- Chen, W., Zhang, N., Wei, J., Yen, H.-L., 2020. Short-range airborne route dominates exposure of respiratory infection during close contact. *Build. Environ.* 176, 106859.
- Chia, P.Y., Coleman, K.K., Tan, Y.K., Ong, S.W.X., Gum, M., Lau, S.K., et al., 2020. Detection of Air and Surface Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in Hospital Rooms of Infected Patients. medRxiv.
- CIBSE, 2005. CIBSE Guideline AM10: Natural Ventilation in Non-domestic Buildings. Chartered Institution of Building Services Engineers, London.
- Coleman, K.K., Nguyen, T.T., Yadana, S., Hansen-Estruch, C., Lindsley, W.G., Gray, G.C., 2018. Bioaerosol sampling for respiratory viruses in singapore's mass rapid transit

- network. *Sci. Rep.* 8, 1–7.
- Darnell, M.E., Subbarao, K., Feinstone, S.M., Taylor, D.R., 2004. Inactivation of the coronavirus that induces severe acute respiratory syndrome SARS-CoV. *J. Virol. Methods* 121, 85–91.
- Department of Health, 2015. U.G. Guidance, Green Book Chapter 4: Varicella; Notifiable in Scotland and Northern Ireland (<https://www.gov.uk/government/publications/varicella-the-green-book-chapter-34>) (accessed 23 April 2020). Department of Health, UK Government.
- Ding, Z., Qian, H., Xu, B., Huang, Y., Miao, T., Yen, H.-L., et al., 2020. Toilets dominate environmental detection of SARS-CoV-2 virus in a hospital. *medRxiv*.
- Distasio, A.J., Trump, D.H., 1990. The investigation of a tuberculosis outbreak in the closed environment of a US Navy ship, 1987. *Mil. Med.* 155, 347–351.
- Eames, I., Tang, J., Li, Y., Wilson, P., 2009. Airborne transmission of disease in hospitals. *J. R. Soc. Interface* 6, S697–S702.
- Escombe, A.R., Moore, D.A., Gilman, R.H., Navincopa, M., Ticona, E., Mitchell, B., et al., 2009. Upper-room ultraviolet light and negative air ionization to prevent tuberculosis transmission. *PLoS Med.* 6.
- Foarde, K.K., 1999. Methodology to perform clean air delivery rate type determinations with microbiological aerosols. *Aerosol Sci. Technol.* 30, 235–245.
- Gilkeson, C., Camargo-Valero, M., Pickin, L., Noakes, C., 2013. Measurement of ventilation and airborne infection risk in large naturally ventilated hospital wards. *Build. Environ.* 65, 35–48.
- Gilkeson, C.A., Noakes, C., 2013. Application of CFD simulation to predicting upper-room UVGI effectiveness. *Photochem. Photobiol.* 89, 799–810.
- Guo, Z.-D., Wang, Z.-Y., Zhang, S.-F., Li, X., Li, L., Li, C., et al., 2020. Aerosol and surface distribution of severe acute respiratory syndrome coronavirus 2 in hospital wards, Wuhan, China, 2020. *Emerg. Infect. Dis.* 26.
- ISO, B. 17772-1: 2017. Energy performance of buildings. Indoor environmental quality. Indoor environmental input parameters for the design and assessment of energy performance of buildings.
- Jiang, Y., Wang, H., Chen, Y., He, J., Chen, L., Liu, Y., et al. Clinical Data on Hospital Environmental Hygiene Monitoring and Medical Staff Protection during the Coronavirus Disease 2019 Outbreak. *medRxiv* 2020.
- Jo, S., Hong, J., Lee, S.-E., Ki, M., Choi, B.Y., Sung, M., 2019. Airflow analysis of Pyeongtaek St Mary's Hospital during hospitalization of the first Middle East respiratory syndrome patient in Korea. *R. Soc. Open Sci.* 6, 181164.
- Kim, S.-H., Chang, S.Y., Sung, M., Park, J.H., Bin Kim, H., Lee, H., et al., 2016. Extensive viable Middle East respiratory syndrome (MERS) coronavirus contamination in air and surrounding environment in MERS isolation wards. *Rev. Infect. Dis.* 63, 363–369.
- Knibbs, L.D., Morawska, L., Bell, S.C., 2012. The risk of airborne influenza transmission in passenger cars. *Epidemiol. Infect.* 140, 474–478.
- Kormuth, K.A., Lin, K., Prussin, A.J., Vejerano, E.P., Tiwari, A.J., Cox, S.S., et al., 2018. Influenza virus infectivity is retained in aerosols and droplets independent of relative humidity. *J. Infect. Dis.* 218, 739–747.
- Kujundzic, E., Hernandez, M., Miller, S.L., 2007. Ultraviolet germicidal irradiation inactivation of airborne fungal spores and bacteria in upper-room air and HVAC in-duct configurations. *J. Environ. Eng. Sci.* 6, 1–9.
- Kujundzic, E., Matalkah, F., Howard, C.J., Hernandez, M., Miller, S.L., 2006. UV air cleaners and upper-room air ultraviolet germicidal irradiation for controlling airborne bacteria and fungal spores. *J. Occup. Environ. Hygiene* 3, 536–546.
- Kulkarni, H., Smith, C.M., Lee, D.D.H., Hirst, R.A., Easton, A.J., O'Callaghan, C., 2016. Evidence of respiratory syncytial virus spread by aerosol. Time to revisit infection control strategies? *Am. J. Respir. Crit. Care Med.* 194, 308–316.
- Lewis, D., 2020. Is the coronavirus airborne? Experts can't agree. *Nature News*.
- Li, Y., Huang, X., Yu, I., Wong, T., Qian, H., 2005. Role of air distribution in SARS transmission during the largest nosocomial outbreak in Hong Kong. *Indoor Air* 15, 83–95.
- Li, Y., Leung, G.M., Tang, J., Yang, X., Chao, C., Lin, J.Z., et al., 2007. Role of ventilation in airborne transmission of infectious agents in the built environment—a multi-disciplinary systematic review. *Indoor Air* 17, 2–18.
- Liu, L., Li, Y., Nielsen, P.V., Wei, J., Jensen, R.L., 2017. Short-range airborne transmission of expiratory droplets between two people. *Indoor Air* 27, 452–462.
- Liu, Y., Ning, Z., Chen, Y., Guo, M., Liu, Y., Gali, N.K., et al., 2020. Aerodynamic Characteristics and RNA Concentration of SARS-CoV-2 Aerosol in Wuhan Hospitals during COVID-19 Outbreak. *bioRxiv*.
- Marr, L.C., Tang, J.W., Van Mullekom, J., Lakdawala, S.S., 2019. Mechanistic insights into the effect of humidity on airborne influenza virus survival, transmission and incidence. *J. R. Soc. Interface* 16, 20180298.
- McDevitt, J.J., Lai, K.M., Rudnick, S.N., Houseman, E.A., First, M.W., Milton, D.K., 2007. Characterization of UVC light sensitivity of vaccinia virus. *Appl. Environ. Microbiol.* 73, 5760–5766.
- McDevitt, J.J., Rudnick, S.N., Radonovich, L.J., 2012. Aerosol susceptibility of influenza virus to UV-C light. *Appl. Environ. Microbiol.* 78, 1666–1669.
- McLean, R., 1961. The mechanism of spread of Asian influenza: general discussion. *Am. Rev. Respir. Dis.* 83, 36–38.
- Melikov, A.K., 2011. Advanced air distribution. *ASHRAE J.* 53, 73–77.
- Melikov, A.K., 2016. Advanced air distribution: improving health and comfort while reducing energy use. *Indoor Air* 26, 112–124.
- Miller-Leiden, S., Lohascio, C., Nazaroff, W., Macher, J., 1996. Effectiveness of in-room air filtration and dilution ventilation for tuberculosis infection control. *J. Air Waste Manag. Assoc.* 46, 869–882.
- Miller, S.L., Clements, N., Elliott, S.A., Subhash, S.S., Eagan, A., Radonovich, L.J., 2017. Implementing a negative-pressure isolation ward for a surge in airborne infectious patients. *Am. J. Infect. Control* 45, 652–659.
- Morawska, L., Cao, J., 2020. Airborne transmission of SARS-CoV-2: the world should face the reality. *Environ. Int.* 105730.
- Moser, M.R., Bender, T.R., Margolis, H.S., Noble, G.R., Kendal, A.P., Ritter, D.G., 1979. An outbreak of influenza aboard a commercial airliner. *Am. J. Epidemiol.* 110, 1–6.
- MSN, 2020. Look inside Singapore's exhibition hall turned hospital (Photos).
- Nishiura, H., Oshitani, H., Kobayashi, T., Saito, T., Sunagawa, T., Matsui, T., et al., 2020. Closed environments facilitate secondary transmission of coronavirus disease 2019 (COVID-19). *medRxiv*.
- Noakes, C., Beggs, C., Sleight, P., 2004. Modelling the performance of upper room ultraviolet germicidal irradiation devices in ventilated rooms: comparison of analytical and CFD methods. *Indoor Built Environ.* 13, 477–488.
- Noakes, C.J., Khan, M.A.I., Gilkeson, C.A., 2015. Modeling infection risk and energy use of upper-room ultraviolet germicidal irradiation systems in multi-room environments. *Sci. Technol. Built Environ.* 21, 99–111.
- Ong, S.W.X., Tan, Y.K., Chia, P.Y., Lee, T.H., Ng, O.T., Wong, M.S.Y., et al., 2020. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. *JAMA*.
- Persily, A., Chapman, R.E., Emmerich, S.J., Dols, W.S., Davis, H., Lavappa, P., et al. Building retrofits for increased protection against airborne chemical and biological releases. National Institute of Standards and Technology, Gaithersburg, MD 2007.
- Phiri, M., 2014. Health Building Note 00-01 General design Guidance for Healthcare Buildings. UK Government.
- Pyankov, O.V., Bodnev, S.A., Pyankova, O.G., Agranovski, I.E., 2018. Survival of aerosolized coronavirus in the ambient air. *J. Aerosol Sci.* 115, 158–163.
- REHVA, 2020. COVID-19 Guidance.
- Roy, C.J., Milton, D.K., 2004. Airborne transmission of communicable infection—the elusive pathway. *N. Engl. J. Med.* 350, 1710.
- Rule, A.M., Apau, O., Ahrenholz, S.H., Brueck, S.E., Lindsley, W.G., de Perio, M.A., et al., 2018. Healthcare personnel exposure in an emergency department during influenza season. *PLoS ONE* 13.
- Santarpia, J.L., Rivera, D.N., Herrera, V., Morwitzer, M.J., Creager, H., Santarpia, G.W., et al., 2020. Transmission potential of SARS-CoV-2 in viral shedding observed at the University of Nebraska Medical Center. *medRxiv*.
- SHASE, 2020. Role of ventilation in the control of the COVID-19 infection: Emergency presidential discourse. The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan (SHASE).
- Shaughnessy, R., Sextro, R., 2006. What is an effective portable air cleaning device? A review. *J. Occup. Environ. Hygiene* 3, 169–181.
- Sornboot, J., Aekplakorn, W., Ramasoota, P., Bualert, S., Tumwasorn, S., Jiamjarasrangi, W., 2019. Detection of airborne Mycobacterium tuberculosis complex in high-risk areas of health care facilities in Thailand. *Int. J. Tuberc. Lung Dis.* 23, 465–473.
- Stopera, M., Stopera, D., 2020. 19 Pictures Of The Most Dangerous Places In New York City Right Now.
- Sung, M., Kato, S., 2010. Method to evaluate UV dose of upper-room UVGI system using the concept of ventilation efficiency. *Build. Environ.* 45, 1626–1631.
- Tang, J.W., 2009. The effect of environmental parameters on the survival of airborne infectious agents. *J. R. Soc. Interface* 6, S737–S746.
- Tellier, R., Li, Y., Cowling, B.J., Tang, J.W., 2019. Recognition of aerosol transmission of infectious agents: a commentary. *BMC Infect. Dis.* 19, 101.
- Thatiparti, D.S., Ghia, U., Mead, K.R., 2016. Assessing effectiveness of ceiling-ventilated mock airborne infection isolation room in preventing hospital-acquired influenza transmission to health care workers. *ASHRAE Trans.* 122, 35.
- Thatiparti, D.S., Ghia, U., Mead, K.R., 2017. Computational fluid dynamics study on the influence of an alternate ventilation configuration on the possible flow path of infectious cough aerosols in a mock airborne infection isolation room. *Sci. Technol. Built Environ.* 23, 355–366.
- van Doremalen, N., Bushmaker, T., Morris, D.H., Holbrook, M.G., Gamble, A., Williamson, B.N., et al., 2020. Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *N. Engl. J. Med.*
- Walker, C.M., Ko, G., 2007. Effect of ultraviolet germicidal irradiation on viral aerosols. *Environ. Sci. Technol.* 41, 5460–5465.
- WHO, 2009. Natural ventilation for infection control in health-care settings (https://www.who.int/water_sanitation_health/publications/natural_ventilation/en/) (accessed 14 April 2020). In: Chartier Y., Pessoa-Silva C., Li Y., Seto W.-H. (Eds.), World Health Organization.
- WHO, 2020a. Infection Prevention and Control During Health Care When COVID-19 is Suspected. Interim Guidance. World Health Organization, 19 March 2020.
- WHO, 2020b. Scientific Brief: Modes of Transmission of Virus Causing COVID-19: Implications for IPC Precaution Recommendations. World Health Organisation.
- WHO, 2020c. Shortage of Personal Protective Equipment Endangering Health Workers Worldwide. World Health Organisation, Geneva, Switzerland.

- Xu, P., Fisher, N., Miller, S.L., 2013. Using computational fluid dynamics modeling to evaluate the design of hospital ultraviolet germicidal irradiation systems for inactivating airborne mycobacteria. *Photochem. Photobiol.* 89, 792–798.
- Xu, P., Kujundzic, E., Peccia, J., Schafer, M.P., Moss, G., Hernandez, M., et al., 2005. Impact of environmental factors on efficacy of upper-room air ultraviolet germicidal irradiation for inactivating airborne mycobacteria. *Environ. Sci. Technol.* 39, 9656–9664.
- Xu, P., Peccia, J., Fabian, P., Martyny, J.W., Fennelly, K.P., Hernandez, M., et al., 2003. Efficacy of ultraviolet germicidal irradiation of upper-room air in inactivating airborne bacterial spores and mycobacteria in full-scale studies. *Atmos. Environ.* 37, 405–419.
- Yang, Y., Chan, W.Y., Wu, C., Kong, R., Lai, A., 2012. Minimizing the exposure of airborne pathogens by upper-room ultraviolet germicidal irradiation: an experimental and numerical study. *J. R. Soc. Interface* 9, 3184–3195.
- Young, L., Wormser, G., 1994. The resurgence of tuberculosis. *Scand. J. Infect. Dis. Suppl.* 93, 9–19.
- Zhu, S., Srebric, J., Rudnick, S.N., Vincent, R.L., Nardell, E.A., 2014. Numerical modeling of indoor environment with a ceiling fan and an upper-room ultraviolet germicidal irradiation system. *Build. Environ.* 72, 116–124.

Lidia Morawska^{a,*}, Julian W. Tang^b, William Bahnfleth^c,
Philomena M. Bluysen^d, Atze Boerstra^e, Giorgio Buonanno^f, Junji Cao^g,
Stephanie Dancer^h, Andres Flotoⁱ, Francesco Franchimon^j,
Charles Haworth^k, Jaap Hogeling^l, Christina Isaxon^m, Jose L. Jimenezⁿ,
Jarek Kurnitski^o, Yuguo Li^p, Marcel Loomans^q, Guy Marks^r,
Linsey C. Marr^s, Livio Mazzarella^t, Arsen Krikor Melikov^u,
Shelly Miller^v, Donald K. Milton^w, William Nazaroff^x, Peter V. Nielsen^y,
Catherine Noakes^z, Jordan Peccia^{aa}, Xavier Querol^{ab}, Chandra Sekhar^{ac},
Olli Seppänen^{ad}, Shin-ichi Tanabe^{ae}, Raymond Tellier^{af},
Kwok Wai Tham^{ag}, Pawel Wargocki^{ah}, Aneta Wierzbicka^{ah},
Maosheng Yao^{ai}

^a International Laboratory for Air Quality and Health (ILAQH), WHO Collaborating Centre for Air Quality and Health, School of Earth and Atmospheric Sciences, Queensland University of Technology, Brisbane, Queensland, Australia

^b Respiratory Sciences, University of Leicester, Leicester, United Kingdom

^c Department of Architectural Engineering, The Pennsylvania State University, USA

^d Faculty of Architecture and the Built Environment, Delft University of Technology, the Netherlands

^e REHVA (Federation of European Heating, Ventilation and Air Conditioning Associations), BBA Binnenmilieu, the Netherlands

^f Department of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Cassino, Italy

^g Key Lab of Aerosol Chemistry and Physics Chinese Academy of Sciences, Xi'an, Beijing, China

^h Edinburgh Napier University and NHS Lanarkshire, Scotland, United Kingdom

ⁱ Department of Medicine, University of Cambridge, United Kingdom

^j Franchimon ICM, the Netherlands

^k Cambridge Centre for Lung Infection, Royal Papworth Hospital and Department of Medicine, University of Cambridge, Cambridge, United Kingdom

^l International Standards at ISSO, ISSO International Project, the Netherlands

^m Ergonomics and Aerosol Technology Lund University, Lund, Sweden

ⁿ Department of Chemistry, and Cooperative Institute for Research in Environmental Sciences (CIRES) University of Colorado, Boulder, USA

^o REHVA Technology and Research Committee, Tallinn University of Technology, Estonia

^p Department of Mechanical Engineering, Hong Kong University, University of Hong Kong, Pokfulam, Hong Kong, China

^q Department of the Built Environment, Eindhoven University of Technology (TU/e), the Netherlands

^r Centre for Air quality Research and evaluation (CAR), University of New South Wales (UNSW), Sydney, New South Wales, Australia

^s Civil and Environmental Engineering, VA Tech, USA

^t AiCARR, Politecnico di Milano, Italy

^u International Centre for Indoor Environment and Energy, Department of Civil Engineering, Technical University of Denmark, Denmark

^v Mechanical Engineering, University of Colorado, Boulder, USA

^w Environmental Health, School of Public Health, University of Maryland, USA

^x Department of Civil and Environmental Engineering, University of California, Berkeley, CA, USA

^y Faculty of Engineering and Science, Department of Civil Engineering, Aalborg University, Denmark

^z School of Civil Engineering, University of Leeds, United Kingdom

^{aa} Environmental Engineering, Yale University, USA

^{ab} Institute of Environmental Assessment and Water Research, Department of Geosciences, Spanish National Research Council, Barcelona, Spain

^{ac} Department of Building, National University of Singapore, Singapore

^{ad} Aalto University, Finland

^{ae} Architectural Institute of Japan, Japan

^{af} McGill University, Canada

^{ag} Department of Building, National University of Singapore, Singapore

^{ah} Ergonomics and Aerosol Technology, Lund University, Sweden

^{ai} College of Environmental Sciences and Engineering, Peking University, Beijing, China

E-mail address: l.morawska@qut.edu.au (L. Morawska).

* Corresponding author at: International Laboratory for Air Quality and Health (ILAQH), WHO Collaborating Centre for Air Quality and Health, School of Earth and Atmospheric Sciences, Queensland University of Technology, Brisbane, Queensland, Australia.



Back 2 School Reopening Plan
Fall 2020

Return to School Safely

Foxborough Regional Charter School was required to submit a plan to the state by Friday, August 14, 2020, which included the final proposal with details of reopening for the Fall of 2020. Because circumstances can change at any moment, the School has three documented plans in place and has chosen the best option for this moment in time. Our plans were completed by a taskforce that included administrators, teachers, administrative staff, our transportation vendor, and our cleaning company. We surveyed staff and families, numerous times throughout the process and included the feedback into our plans. A tremendous amount of input and hard work representing all stakeholders, went into this process, to develop a plan that is feasible, thoughtful and purposeful.

Guidance from the Commissioner for additional training time before the start of classes was released. The School will implement that new procedure and add days at the beginning of the school year for COVID safety protocol orientation and Remote Learning professional development activities. Two weeks of Orientation this year are scheduled to review COVID-related procedures and provide Remote Learning workshops to strengthen distance learning instruction. Additionally, the plan outlines a full remote start and phases in grade levels over a four-week period, starting in October, to allow the school to move forward in a slow and steady way and make adjustments as necessary in reaction to the changing data.

Please know that our first priority is our community and all of our plans are focused on staff and student safety. Every decision made has been considered through an infectious disease lens and we have done our best to anticipate all unintended outcomes. As of August, 11, 2020, we have final approval from the Board of Trustees to start on September 14, 2020 with all students 100% Remote. The Hybrid Model will be phased in starting Mid-October, as feasible by health trends at that time.

First Day of School	September 14, 2020	100% Remote
First Day of Hybrid	October 19, 2020	Reference Cohorts in Chart

October 19, 2020 is the anticipated start date of our remote program. It will be decided based on public health data.

**The school will use the information from the most recent Family Survey to assign families into cohorts in preparation for our introduction of the Hybrid Model in Mid-October.

Table of Contents

Phase 1	4
Phase 2	6
Cohort Structure	7
Phase In Schedule	8
Attendance Policy	8
Social Distancing	9
Health Precautions	11
Rapid Response Testing	19
Hygiene Protocols	21
Instruction and Technology	22
Staffing and Operations	26
Families First Coronavirus Response Act	28
Cleaning and Disinfecting	30
Personal Protective Equipment	30
Positive Case Procedure	31
Programming	33
Communication	34
Interscholastic Athletics	35
State Metrics	37

Phase 1 – September 14, 2020 - October 16, 2020

1. 100% Remote Learning for all students K-12.
2. In-person learning may be offered to students with the highest needs, according to their Individual Education Plan.

Special Education students who receive most of their instruction in a substantially separate classroom will have the option to return to in-person instruction Monday, Tuesday, Thursday, and Friday from 8:00am-2:00pm using a phased in approach. Families with children currently in the program will be notified individually.

Sub Separate Timeline:

9/14	Mrs. Howell - Rising Stars students return to in-person instruction
9/21	Miss Greene and Miss O'Reilly - TLC 1 and TLC 2 (ES programs) return along with Rising Stars for in-person instruction
9/28	Mrs. Davidson and Ms. Maher - MS Academic Support classrooms (2) return along with ES classrooms
10/5	Ms. Ferraz – High School class returns along with the MS and ES classrooms

3. ELE Students The School will provide an in-person service delivery model rather than an in-person instructional model. ELs who qualify as high needs, through screening or ACCESS results, will be offered 2 hours, twice a week, of ESL services with ESL teachers. Students will work on academic language and speaking skills during the in-person services. Parents will be responsible for providing transportation for this small window of services - similar to a clinic model if they want to participate in this opportunity.
4. Teachers will teach from their classrooms so they will have access to synchronous technology and other resources.
6. Each week, Wednesday will be set aside for professional development day for staff to strengthen remote learning lessons, tools, assignments and activities. Teachers will post projects and other assignments for student engagement on those days, in advance. There will be no staff in the building and the Offices will be closed.
7. The School will assess current public health data daily to inform decisions to move forward and make recommendations to the Board of Trustees.
8. Remote instruction may include synchronous lessons that will be recorded for review and posted for students who may have been absent.

7. Should the circumstances be deemed safe at that time, the Hybrid Model Phase In will begin on October 19 and follow the original plan. The only difference will be the implementation dates.
8. Teachers will participate in professional development from August 27, 2020 – September 11, 2020. During this time, all safety precautions, COVID related training and health and wellness procedures will be addressed. Week 2 of orientation will also include:
 - a. Testing of technology and bandwidth to prepare for high volume use.
 - b. Distribution of Streams, grade level text books and materials to families.
 - c. Workshops on Google Classroom and remote learning tools and lessons.

** Staff may bring school aged children to their classroom during the two orientation weeks and 100% remote learning time, if necessary, with the expectation that they remain in the classroom, wear face coverings, and have assignments and activities to keep them focused.*

9. All teachers will teach from their classrooms and attend work in person each day.
 - a. Monday/ Tuesday/ Thursday / Friday Hours will remain 7:30am-3:30pm with the end of day, until 3:30pm, set up as office hours for remote students.

Phase 2- Anticipated Start Date October 19, 2020 – Actual Start Date will Depend on Public Health Data Trends

1. The plan is for students to participate in on campus learning starting in Mid-October.
2. A choice of full time remote is available for students and families. Families are required to sign up in advance, if they choose to continue 100% Remote.
3. Students selecting Hybrid, and deciding to remain Remote, should contact the building Principal and teachers to make this switch.
4. Students selecting Remote, and deciding they would like Hybrid, should contact the building principal and the teachers. A timeline will be set up to ensure a smooth transition for students, teachers and families.
5. The School will implement a Hybrid model, two days each week for all students selecting in person instruction.
6. Classes will be offered on campus on a rotating schedule with 2 cohorts of remaining students.
 - a. Cohort A will attend school on Monday and Tuesday and work remotely on Wednesday, Thursday, Friday.
 - b. Cohort B will attend school on Thursday and Friday and work remotely Monday, Tuesday, Wednesday.
 - c. Wednesday will be a staff development day – no staff or student on-campus attendance AND a deep cleaning day before the second cohort enters the building. Remote lessons, activities and assignments must be recorded, uploaded and/or posted in advance so students have instruction provided.
 - i. Estimated class size is 10-12 students per classroom in elementary school and middle school under this model with 6 foot physical distancing. High School will make every effort to keep in person classes as small as possible and in compliance with the 6 foot social distance guidance.
 - ii. Staff development each Wednesday will center around building remote learning tools, lessons and programming to strengthen the current remote program and to prepare for a possible need for intermittent shut down due to outbreaks. Teachers will offer office hours online, but will not provide direct whole class instruction.

7. Phased in schedule by week and by grade to allow for:
 - a. More structured re-entry for students and parents to ensure health and safety and to give the school time to revisit, review and revise plans based on actual student feasibility once seen in action.
 - b. More time for teachers and administrators to tweak procedures with fewer students and families impacted.

Cohort Structure:

Cohort A	Attend on campus Monday / Tuesday
Cleaning/ Sanitizing Wednesday	No student attendance/ Staff development and planning periods as well as Deep Cleaning
Cohort B	Attend on campus Thursday / Friday

- On days when students are not on campus, they will be required to participate in remote learning videos, activities, projects, and other assignments.
- Cohorts will be assigned in late August and will be communicated out to families along with class placement and schedule announcements in early September.
- Families have chosen Remote or Hybrid through the end of Term 1.

Phased in Schedule:

- One grade level in each of the schools will be phased in at a time.
- Procedures will be tweaked as necessary and an additional grade level will be phased in to each of the schools in each subsequent week.
- Grades K and 1 will be the only exception and will both begin on campus instruction November 9, 2020.
- A Kindergarten Orientation will be held for each cohort in early October on Wednesdays, when no other students are in the building.

Fall 2020 Return to School Phase In On Campus / Remote Learning Schedule

Week	Week Of:		ES Grade Attendance	MS Grade Attendance	HS Grade Attendance	*Remote Until Phased In
Staff ONLY	August 27 – September 11	Staff Orientation and Safety Training Topics to include: COVID related safety procedures and remote learning tools, strategies and best practices. During Week 2, all technology and streaming capacity will be tested to ensure bandwidth meets streaming needs.	XX	XX	XX	XX
Weeks 1-5	September 14 – October 16	All Students 100% Remote Students participating in a substantially separate classroom will be phased in during this time.	All	All	All	All
Week 1	October 19	Cohort A Attends on campus instruction on Monday/ Tuesday. Cohort B Attends on campus instruction on Thursday/Friday. Cohorts assignments will be made by September.	Grade 4 Only	Grade 5 Only	Grade 9 Only	Kindergarten Grade 1 Grade 2 Grade 3 Grade 6 Grade 7 Grade 8 Grade 10 Grade 11 Grade 12
Week 2	October 26	Cohort A attends Monday/Tuesday Cohort B attends Thursday/ Friday	Grade 4 Grade 3	Grade 5 Grade 6	Grade 9 Grade 10	Kindergarten Grade 1 Grade 2 Grade 7 Grade 8 Grade 11 Grade 12
Week 3	November 2	Cohort A attends Monday/Tuesday Cohort B attends Thursday/ Friday	Grade 4 Grade 3 Grade 2	Grade 5 Grade 6 Grade 7	Grade 9 Grade 10 Grade 11	Kindergarten Grade 1 Grade 8 Grade 12
Week 4	November 9	Cohort A attends Monday/Tuesday Cohort B attends Thursday/ Friday	Grade 4 Grade 3 Grade 2 Grade 1 Kindergarten	Grade 5 Grade 6 Grade 7 Grade 8	Grade 9 Grade 10 Grade 11 Grade 12	Remote Learners ONLY

***TBD: Kindergarten Cohort A and B Orientation**

Attendance Policy

Attendance is expected under the remote model and will be taken each class period. If a student is unable to attend the scheduled remote synchronous learning session, submitted online classwork assignments will also mark the student as present, but must be submitted the same day for attendance to count. If a student does not attend the synchronous session, or submit work, families will be contacted to determine if the student is absent. As during a typical school year, families are asked to contact their child's school if they will be absent from learning on any given day.

Social Distancing

Limiting face-to-face contact with others is the best way to reduce the spread of coronavirus disease 2019 (COVID-19). Social distancing, also called “physical distancing,” means keeping space between yourself and other people outside of your home. **To practice social or physical distancing stay at least 6 feet (about 2 arms’ length) from other people.** Keeping space between you and others is one of the best tools we have to avoid being exposed to this virus and slowing its spread. Limit close contact with others outside your household in indoor and outdoor spaces. Since people can spread the virus before they know they are sick, it is important to stay away from others when possible, even if you—or they—have no symptoms. Social distancing is especially important for people who are at higher risk for severe illness from COVID-19.

Community Goals:

- Maintain social/physical distancing practices in the School.
- Do not congregate in common spaces such as hallways and break rooms or visit with friends.
- Instead of talking face to face, phone calls are strongly encouraged.
- Clean personal work areas daily.
- Do not use other employees’ or students’ phones, desks, offices or other work tools and equipment, when possible.
- Stay at least 6 feet from students and co-workers, approximately 2 arms’ lengths.

The School will monitor entries and exits and limit occupancy at all times to ensure:

- Capacity remains at 50% of the building’s maximum permitted occupancy as documented in the occupancy permit on record with the Foxborough building department.
- All occupancy counts and calculations include students, staff, and other workers.
- Separation of 6 feet or more between individuals will be adhered to, where possible.
- Common spaces and high density areas where students and staff are likely to congregate will be closed or reconfigured (e.g., staff rooms, cafeteria; lobbies and workstations for students and staff to allow social distancing.
- Physical partitions will separate workstations that cannot be separated by 6 feet or more.
- Visual social distancing markers will be installed to encourage students and staff to remain 6 feet apart (e.g., lines at the front offices, lines to use the restroom) and physical barriers for flow of hallway direction.
- All rooms and hallways will be marked to indicate 6 feet separation and direction of flow.

Mask Breaks

- Teachers will determine when mask breaks are appropriate.
- Mask breaks should be encouraged at natural breaks during the school day. Meals, snacks and at teacher discretion.
 - Students will maintain 6 foot distance and will participate in breaks up to 15 minutes.
 - Masks must be worn in all common areas including: buses, classrooms, hallways, bathrooms, recess or other common areas. students and staff should be safely 6 feet or more distancing if a mask is removed.

Additional Safety Precautions in Place

- Lunch and break times for students and staff will be staggered, and meals will be delivered and portable. Trash barrels will be placed in each room and should be set in the hallway daily for removal, immediately following lunch.
- In classrooms, students will be no less than 6 feet apart.
- Face coverings are required for all staff, students, and visitors as necessary. Individuals with medical conditions or disabilities who are concerned about wearing a face covering should contact the Nurse Leader. Neck Gaiters, bandanas, and masks with valves will not be acceptable as research is showing them to be ineffective.
- Directional pathways have been established to manage flow for foot traffic, to minimize contact (e.g., one-way entrance and exit to rooms, one-way pathways). Visible signage is posted, regarding these policies.

Health Precautions for Staff and Students

People with COVID-19 have had a wide range of symptoms reported, ranging from mild symptoms to severe illness. Symptoms may appear **2-14 days after exposure to the virus**. People with these symptoms may have COVID-19:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea
- <https://www.youtube.com/watch?v=7zzfdYShvQU>

Contact Tracing

Contact Tracing is an important component to decreasing the spread of COVID 19. Visitors who enter the building will be required to sign in with their name and phone number to facilitate contact tracing if needed.

Daily Screening

Foxborough Board of Health department requires all students, staff and visitors entering the building complete a COVID 19 screening form daily.

The Screening form can be located at <https://forms.gle/kYSXfo8jGybSZFSg6> or accessed by scanning the QR Code below.



Ensuring students have completed pre-screening forms daily.

Teachers will post as a daily assignment to help students remember and reminders will be sent to parents via email.

Face Masks and Other Precautions:

- Cloth face coverings are required as a simple barrier to help prevent respiratory droplets from traveling into the air and onto other people when the person wearing the cloth face covering coughs, sneezes, talks, or raises their voice.
- Face Covering must be worn correctly.
- Students and Staff should wash hands before putting on face coverings.
- Masks should be placed over **nose and mouth** and secured under the chin.
- Masks should fit snugly against the sides of the face.
- You should be able to breathe easily.
- Hold a mask up to a light and make sure you **can't** see thru it. (*If light shows thru the mask, you are not getting the proper protection.)
- Masks or cloth face coverings should be worn at all times during the school day when a 6 foot physical distance cannot be maintained and at all times, while riding the school bus.
- Students in grades K and 1 will be encouraged to wear face masks or cloth coverings at all times.

Removing Your Mask Safely

- Take off your cloth face covering carefully
- Untie the strings behind your head or stretch the ear loops
- Handle only by the ear loops or ties
- Fold outside corners together
- Place covering in the washing machine
- Be careful not to touch your eyes, nose, and mouth when removing and wash hands immediately after removing.

Keep your hands clean

- Wash hands frequently or use hand sanitizer.
- Touch the least amount of common spaces as possible where safety allows. Use paper towels or tissues as a barrier when you must touch common areas and then throw them away properly.
- When using common items, sanitize hands before touching any equipment (ex. copier machine) and again afterwards.
- Avoid touching face.

- Sneezing or cough into your elbow or cover your mouth and nose with a tissue. Dispose of the tissue properly and wash your hands.

Follow these five steps every time while hand washing

- **Wet** your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
- **Lather** your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.
- **Scrub** your hands for at least 20 seconds. Need a timer? Hum the “Happy Birthday” song from beginning to end twice.
- **Rinse** your hands well under clean, running water.
- **Dry** your hands using a clean towel or air dry them.

Students and Staff should wash hands

- Upon arrival and upon going home
- Before entering vehicles used for transportation
- After coming in from program space outside
- Before and after preparing food
- Before and after you eat
- After assisting students with handwashing
- After using any shared equipment like keyboards or manipulatives
- After touching or cleaning surfaces that may be contaminated
- Before and after treating a cut or wound
- After sneezing, coughing, or nose blowing
- After toileting or diapering
- After contact with a facemask or cloth face covering
- Before and after change of gloves

How and When to Use Hand Sanitizer

- Apply the gel product to the palm of one hand (read the label to learn the correct amount).
- Rub your hands together.

- Rub the gel over all the surfaces of your hands and fingers until your hands are dry. This should take around 20 seconds.
- Washing hands with soap and water is the best way to get rid of germs in most situations. If soap and water are not readily available, you can use an alcohol-based hand sanitizer that contains at least 60% alcohol. You can tell if the sanitizer contains at least 60% alcohol by looking at the product label.
- Sanitizers can quickly reduce the number of germs on hands in many situations.
- Sanitizers do not get rid of all types of germs.
- Hand sanitizers may not be as effective when hands are visibly dirty or greasy.

Accessing the Nurse during the school day:

- Call the nurse prior to sending any student to the office. Students will not be allowed to wait outside the office or the classroom.
 - HS ext: 360
 - MS ext: 362
 - ES ext: 361
- If nurse is not able to answer the phone, call the front office they will radio the nurse to contact your room when the nurse is available.
- Please keep in mind, if a suspected COVID 19 case is in the medical waiting room students may be asked to wait in the classroom until the office is deemed safe.
- While waiting for nurse to return call:
 - Continue to maintain social/ physical distancing
 - Keep masks on at all times.

Protocols for Responding to COVID -19 Scenarios

Protocols for responding to COVID-19 scenarios in school, on the bus, or in community settings. These refinements and updates are a result of questions that have come from the practical implementation of both DESE and Department of Public Health (DPH) guidance, as well as from evolving medical and scientific findings related to COVID-19. Please note that DESE and DPH intend to collaborate throughout the school year to conduct periodic reviews of guidance for schools and issue additional updates as necessary. DESE will also update its relevant guidance documents so that they include the clarified guidelines described below.

Definition of a close contact

- If a student or staff member tests positive for COVID-19, their close contacts will be defined as only those who have been within 6 feet of distance of the individual for at least fifteen minutes, while the person was infectious. The infectious period begins 2 days prior to symptom onset. If someone is asymptomatic, the infectious period is considered to begin 2 days prior to the collection of their positive test. While previous guidance stated that all students in an elementary classroom would be defined as close contacts, this new guidance provides a narrower definition of a close contact which mirrors DPH guidance.

Policy of when a close contact may return to school

- All close contacts should be tested but must self-quarantine for 14 days after the last exposure to the person who tested positive, regardless of test result. After further consultation with the medical community, we are updating this guidance as the virus can cause illness from 2-14 days after exposure and even asymptomatic individuals can transmit the virus. Going forward, even if an individual identified as a close contact receives a negative test result, they must continue to self-quarantine for the full 14 days as the virus may take up to 14 days to cause illness.

Policy of when a student/staff person may return to school after COVID-19 symptoms

- If a student or staff member has COVID-19-like symptoms, they may return to school after they have tested negative for COVID-19, have improvement in symptoms, and have been without fever for at least 24 hours without the use of fever reducing medications. If a provider makes an alternative diagnosis for the COVID-19-like symptoms, the individual may return to school based on the recommendations for that alternative diagnosis (e.g., influenza or strep pharyngitis).
- If a student or staff member presents COVID-19-like symptoms and chooses not to be tested, they may return to school 10 days from start of symptoms, as long as their symptoms have improved and they have been without fever for at least 24 hours prior to their return to school without the use of fever reducing medication.

Definition of COVID-19 related fever

- Over the summer, the threshold for a COVID-19 related fever by the Centers for Disease Control and Prevention (CDC) has been updated from greater than 100.4°F to greater than 100.0°F. As a result, going forward, a fever as a COVID-19 symptom will be defined as 100.0°F or higher.

Students wearing masks

- Masks or face coverings are among the most critical components to reduce the transmission of COVID-19. Students in grade 2 and above are required to wear a mask/face covering that covers their nose and mouth at all times, with the exception of meals and mask breaks. Whenever possible, students in pre-kindergarten through grade 1 who can safely and appropriately wear, remove, and handle masks should do so. Even if students are spaced six feet apart in classrooms, the use of masks is still required unless students are eating lunch or taking a mask break.

Physical distancing guidelines

- Physical distancing is a critical tool in preventing the spread of COVID-19. The CDC recommends 6 feet of distance between individuals. The World Health Organization³ and the American Academy of Pediatrics⁴ recommend a minimum of 3 feet of distance. DESE recommends that districts aim for 6 feet of distance where feasible. When 6 feet is not feasible, 3 feet is an acceptable minimum as long as staff and students wear masks covering the nose and mouth at all times. If the 3 feet minimum is applied on the bus, all staff and students regardless of age must wear masks at all times. Please note that decisions to apply a 3-foot minimum will likely increase the number of close contacts associated with the occurrence of a case.

Immunizations required in all models of learning

- Previously released guidance emphasized the importance of maintaining school immunization requirements and obtaining the flu vaccine as students return to in-person instruction.
- This is equally important for students who are enrolled in remote or hybrid schooling models. Immunization requirements must be met in all models of learning.
- Staff is also required to receive a flu vaccination by December 31, 2020.

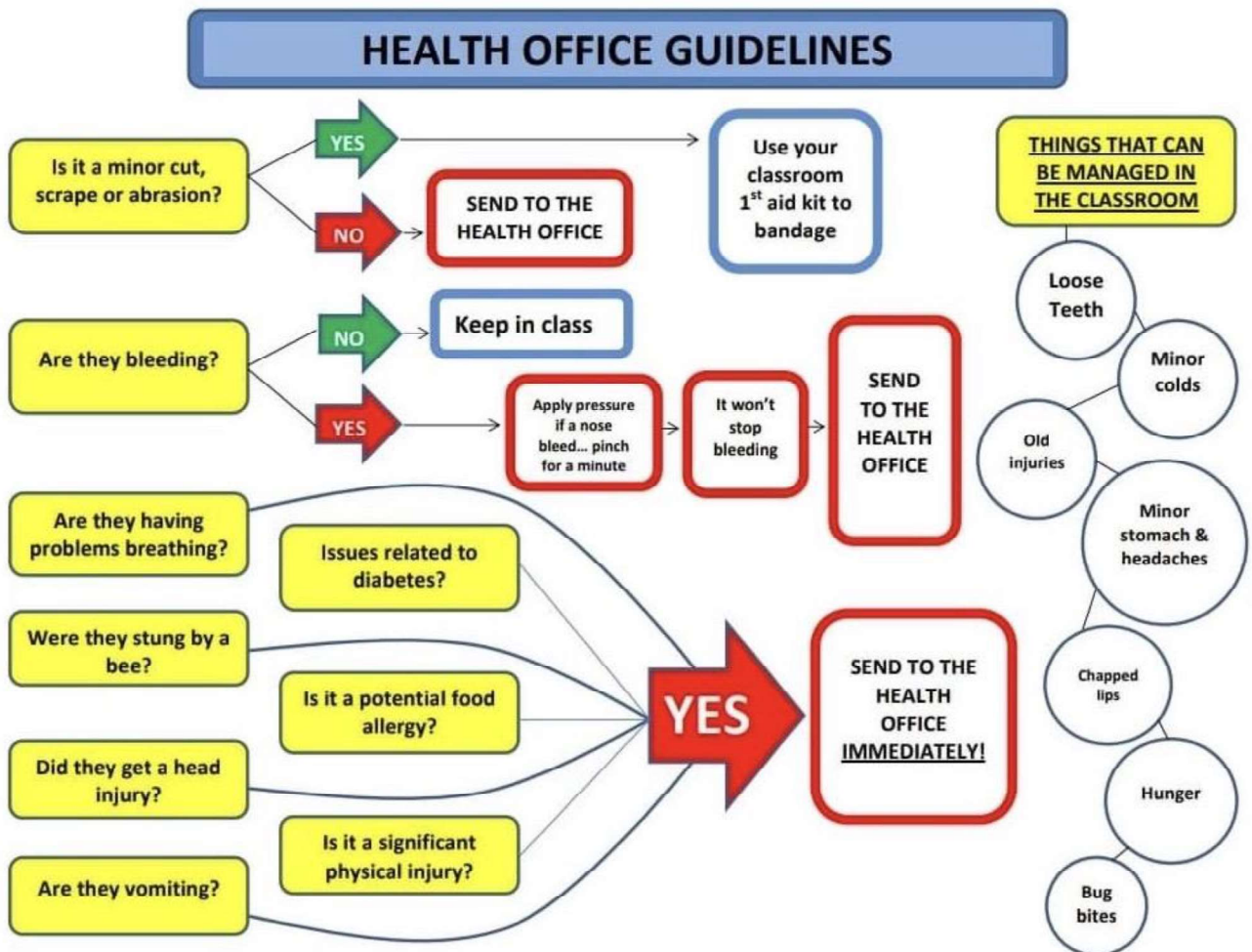
Medical waiting room

- As noted in previous DESE guidance, schools must establish a separate room for students exhibiting COVID-19 symptoms or who may have learned about a positive test result while at school, while waiting to be picked up by a family member. This space must be supervised. If feasible given space and staffing constraints, schools are encouraged to provide individual students with their own waiting room. If more than one student is in the same waiting room at a time, each student must be at least 6 feet apart (and should be spaced as far apart as possible) and wearing a surgical mask (non-N95 and non-cloth) while in the medical waiting room. If a student does not already have a surgical mask, the school should provide one. Schools must also be equipped with the PPE for the staff involved with supervision of the waiting room.

Supporting the safe application of hand sanitizer

- Handwashing with soap and water for at least 20 seconds is the best practice. However, hand sanitizer containing at least 60% alcohol should be substituted when handwashing is not available. Hand sanitizer stations should be set up where school staff are typically present, such as common areas, hallways, and classrooms. While the application of hand sanitizer may be necessary throughout the school day (especially if hand washing is less accessible) and does not require specialized instructions for use, districts and schools should avoid placing sanitizer stations in areas that are not typically supervised through the regular presence of staff.

Supporting the safety of our students, teachers, staff, and community is our most important mutual priority. We will continue to work in collaboration to update and refine our procedures as the science evolves and the State offers new guidance. Thank you for your efforts on behalf of our students and to provide a safe environment for everyone in our schools.

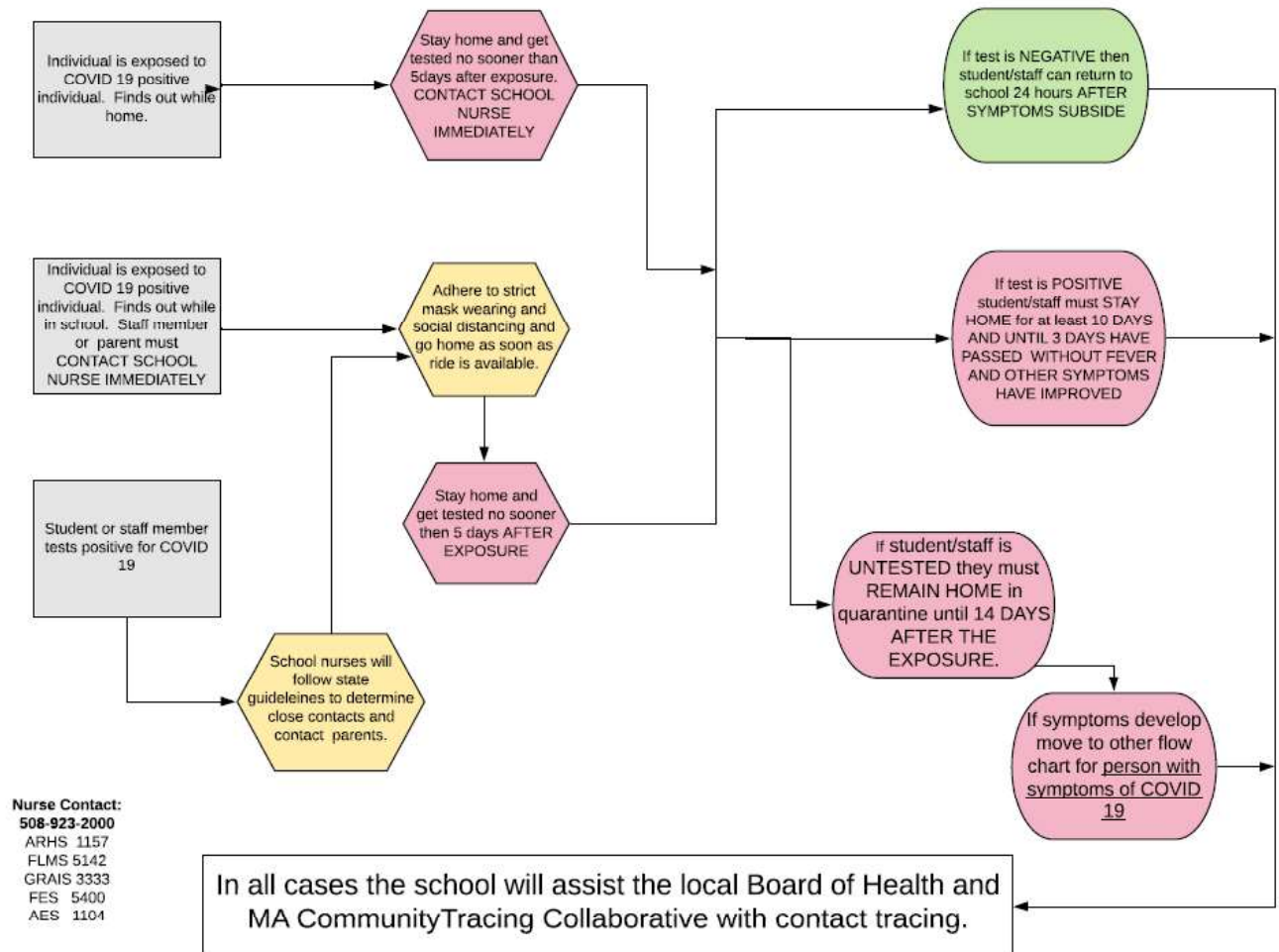


Understanding Symptoms

Symptoms	Coronavirus [†] (COVID-19) Symptoms range from mild to severe	Cold Gradual onset of symptoms	Flu Abrupt onset of symptoms	Seasonal Allergies Abrupt onset of symptoms	Asthma Gradual or abrupt onset of symptoms
 Length of symptoms	7-25 days	Less than 14 days	7-14 days	Several weeks	Can start quickly or last for hours or longer*
 Cough	Common (usually dry)	Common (mild)	Common (usually dry)	Rare (usually dry unless it triggers asthma)	Common (can be dry or wet/productive)
 Wheezing	No	No**	No**	No**	Common
 Shortness of breath	Sometimes	No**	No**	No**	Common
 Chest tightness/pain	Sometimes	No**	No**	No**	Common
 Rapid breathing	Sometimes	No**	No**	No**	Common
 Sneezing	No	Common	No	Common	No***
 Runny or stuffy nose	Rare	Common	Sometimes	Common	No***
 Sore throat	Sometimes	Common	Sometimes	Sometimes (usually mild)	No***
 Fever	Common	Short fever period	Common	No	No
 Feeling tired and weak	Sometimes	Sometimes	Common	Sometimes	Sometimes
 Headaches	Sometimes	Rare	Common	Sometimes (related to sinus pain)	Rare
 Body aches and pains	Sometimes	Common	Common	No	No
 Diarrhea, nausea and vomiting	Sometimes	Rare	Sometimes	No	No
 Chills	Sometimes	No	Sometimes	No	No
 Loss of taste or smell	Sometimes	Rare	Rare	Rare	No

Your symptoms may vary. [†]Information is still evolving. *If your quick-relief medicine is not helping your asthma symptoms, or if you are in the Red Zone on your Asthma Action Plan, call your health care provider or seek medical attention immediately. **Allergies, colds and flus can all trigger asthma which can lead to shortness of breath, chest tightness/pain and rapid breathing. COVID-19 is the only one associated with shortness of breath on its own. ***If you have allergic asthma, you may have symptoms of both asthma and allergies at the same time.
Sources: Asthma and Allergy Foundation of America, World Health Organization, Centers for Disease Control and Prevention. edited 7/15/20 • aafa.org/covid19

COVID19 Protocol for Exposure to COVID Positive individual



Rapid Response Testing

Local school officials, after consultation with public health authorities, will be able to request a state sponsored mobile testing unit to test a group of students and/or staff when a potential cluster of COVID-19 cases has been identified and transmission **occurred within the school.**

- The purpose of the mobile rapid response unit is to provide testing of asymptomatic individuals who are not known to be a close contact, when there is evidence that COVID-19 transmission may have occurred within a classroom or school in the past 14 days

- School administrators must contact their local board of health before reaching out to the Department of Public Health. The mobile response unit can be requested by a school administrator or the local board of health and may be deployed by the COVID-19 COVID Response Center after consultation with a DPH epidemiologist
- Any youth under the age of 18 must have the written approval of their parent or legally authorized representative in order to be tested
- DESE and DPH will put out detailed guidance in the coming weeks on how and when testing can be requested, as well as testing and resulting protocols
- Students who develop COVID-19 symptoms or who are close contacts should be tested by their healthcare provider or at a COVID-19 testing [site](#). Testing for symptomatic individuals and close contacts is covered by insurance with no out-of-pocket costs. If an individual does not have insurance testing, it is the responsibility of the health care provider to bill through the federal portal.
- *School administrators should consult with public health authorities to determine if a request for mobile testing should be made. The mobile response team would be deployed if the following minimal conditions applied:*
 - staff if two or more students/staff within the classroom group develop COVID-19 within 14 days and transmission/exposure occurred in the classroom
 - if more than 3% of the cohort/grade (at least 3 individuals) develop COVID-19 within 14 days and transmission/exposure occurred in the school
 - if more than 3% of the school develops COVID-19 within 14 days and there is evidence of transmission within the school
 - if 3 or more staff within the same school develop COVID-19 within 14 days and there is evidence of transmission among the staff
 - if two or more students on the bus develop COVID-19 within 14 days

Stop the Spread

The Stop the Spread (STS) initiative was launched on July 10th. STS is a data-driven initiative that currently provides free testing in 20 communities, through September 12th, that have high rates of COVID-19. The Stop the Spread initiative will be extended through Sept. 30 in select municipalities with the highest rates of COVID 19.

Hygiene Protocols

Cleaning and disinfecting of high traffic areas as well as frequent hand washing are recommended strongly by the CDC. The school will:

- Ensure access to handwashing facilities on site, including soap and running water, and allow sufficient break time for students, staff and teachers to wash hands frequently; alcohol-based hand sanitizers with at least 60% alcohol may be used as an alternative.
- Provide regular sanitation of high touch areas, such as workstations, equipment, screens, doorknobs, and restrooms throughout the school.
- Staff and teachers at each school building location will be provided with adequate cleaning products (e.g., sanitizer, disinfecting wipes)
- Visible signage will be placed throughout the school to remind students and staff of hygiene and safety protocols.
- Alcohol-based hand sanitizers with at least 60% alcohol have been made available at entrances and throughout floor areas for students, staff and visitors.
- Sharing equipment and supplies between students, staff and visitors will be avoided.
- Shared equipment will be disinfected before use by another student or staff member.

Air Quality:

- FRCS has reviewed its Heating, Ventilation and Air Conditioning (HVAC) systems and identified methods to maximize introduction of outside fresh air, and improve air filtration, in accordance with DESE recommendations and guidance. HVAC systems in all three FRCS facilities have been upgraded in recent years to facilitate these adjustments.
- HVAC system settings will be adjusted to eliminate or minimize the use of recycled air to the extent possible. Upgraded, recommended MERV-13 air filters have been introduced in all classrooms to more effectively treat incoming fresh and returned air. Filters will be changed at least quarterly to further improve air quality.
- As outside air temperatures begin to drop, further changes to HVAC settings will be necessary to balance the need for outdoor, fresh air, with sustainable indoor temperatures that are conducive to a learning environment. This calibration will also be necessary to prevent significant damage to the HVAC systems from introduction of colder, fresh air. FRCS has engaged an HVAC company to review all settings to promote optimal fresh air ventilation and occupant safety with potential future installations to promote air quality during colder months.

- FRCS campus uses modern HVAC technology, including a building automation system (BAS) that facilitates control of HVAC settings and maximization of fresh air intake. Additional controls are being installed in certain areas of campus to be added to the BAS in order to remotely control dampers in order to bring in maximum outside air.
- Changes have been made to the HVAC units to switch air circulation patterns and pull 100% fresh outside air into the building, recycling the inside air back outside of the building. The School has upgraded all filters to Merv-13 which are thought to better capture droplets in the air and better protect against potential COVID infection.

Outdoor Access:

- Tents have been installed at each building to be used for instruction, mask breaks, etc. A tent Schedule will be available through the Administrative Assistant at each building office.

Instruction and Technology

The remote learning program will be far more robust than we experienced this spring. Attendance will be mandatory, assignments will be graded, projects, activities and classwork will factor into final grades. Each Wednesday, teachers will participate in professional development to share best practices and continue to strengthen delivery of instruction.

- The School will strive to provide every student effective and impactful Remote learning and Distance Learning during the Hybrid Phase.
- Chromebooks have been ordered and will be delivered to the school in mid-October. They will be distributed to Middle and High School students at that time.
- Streams will be distributed in early September who all students who need a device in order to access the curriculum remotely.
- Headphones will be available on a limited basis to families who need support with setting up a quiet learning environment for their child.
- Lessons will be recorded and posted online.
- Synchronous Learning will be available this fall to stream teacher led lessons in real time.
- Teachers will hold scheduled office hours to support children and be available via email for families.
- Our Technology Specialist will hold virtual instructional sessions for parents to help them learn how to better navigate the Google Classroom platform and support their children.

Tech Support:

The School has set up a designated Help Line for parents who need assistance with Google Classroom or have other Tech issues. The email is FamilytechSupport@foxboroughrcs.org.

Device and School Material Distribution:

September 8

Elementary School Device and Material Pick up – Please watch for the sign up genius in future emails

9:00 a.m.-12:00 p.m. – Grades K through 2 will pick up in the Elementary School Parking lot.

Each grade will be assigned one lane.

1:00 p.m.-3:00 p.m. – Grades 3 and 4 will pick up in the Elementary School Parking lot. Each

grade will be assigned to one lane.

September 9

Middle School Device and Material Pick up – Please watch for the sign up genius in future emails

9:00 a.m.-11:00 a.m. – Grades 5 and 6 will pick up in the Bus Lane Area near Door E. Each grade will be assigned one lane.

12:00 p.m.-2:00 p.m.- Grades 7 and 8 will pick up in the Bus Lane Area near Door E. Each grade will be assigned one lane.

September 10

High School Device and Material Pick up- Please watch for the sign up genius in future emails

9:00 a.m.-11:00 a.m. – Grades 9 and 10 will pick up in the Bus Lane Area near Door E. Each grade will be assigned one lane.

12:00 p.m.-2:00 p.m.- Grades 11 and 12 will pick up in the Bus Lane Area near Door E. Each grade will be assigned one lane.

September 11

Device and Material Pick up for students in Ms. O'Reilly, Miss Greene, Mrs. Davidson, Ms. Maher and Mrs. Ferraz's Classrooms

9:00 a.m.-10:00 a.m. – All grades may pick up at the Elementary School

Special Education/ Substantially Separate Program:

The BCBA will provide parent training on how to support, structure and incentivize remote learning to help students be more successful. Teachers will develop a remote learning schedule that provides time for teacher led instruction and independent/home supported practice.

Foxboro Regional Charter School's Acceptable Use of Remote Technologies

As our school community navigates re-opening in the midst of the COVID-19 pandemic; FRCS is dedicated to providing engaging and effective remote learning opportunities for our students. In order to comply with federal, state and local guidance to minimize risk for COVID-19 transmission, FRCS plans to use remote technology, including live-streaming technology through remote platforms (e.g. Google Meet and Zoom), so a designated group of students in a class at home can access the live in-class experience, pre-recorded videos and other materials at home. We believe this will offer the most engaging, real-time experiences for students while ensuring students can be safely distanced in the classroom. Prior to engaging in these remote opportunities, FRCS seeks to clarify expectations around appropriate use of virtual technologies for educational opportunities.

1. FRCS may use live-streaming technology in order to allow students at home to access real-time in classroom experiences. The live-streamed videos may be recorded by FRCS and put in Google Docs for future viewing by students who were absent or those seeking to review a lesson. Such recordings will be made of the teacher and his/her visual aids only. No students will be recorded. Only students with the appropriate access code will be able to view the recorded videos on Google Docs. No other recordings shall be maintained or stored by FRCS. Please be advised that FRCS administration may continue to use intermittent in-person video recordings of in-person classrooms exclusively for teacher coaching and professional development purposes.
2. FRCS strictly prohibits screenshots, pictures, audio/video recording and distribution of any virtual educational experience by others in order to protect student privacy, proactively prevent potential cyberbullying, prevent the distribution of copyrighted materials and comply with Massachusetts law. Please note that in Massachusetts, it is illegal to record another person through any medium without his or her knowledge.
3. FRCS has made good faith efforts to ensure virtual platforms it uses comply with child Internet protection and confidentiality laws and do not sell, use or disclose any personally identifiable information or data for commercial purposes or to third parties. There are potential risks for Internet interruptions, unauthorized interruption by third party and technical difficulties. You can minimize the risk of breaches in confidentiality by not sharing any links, user name and passwords used for virtual opportunities access.
4. Students, and where appropriate parents/guardians, agree to engage in live remote educational experiences dressed appropriately, in a quiet, private area to the extent practicable given the circumstances, in order to minimize background noise and distractions and to protect the integrity of student engagement as well as student confidentiality.
5. The laws that protect the privacy and confidentiality of your child's personally identifiable information apply to remote educational opportunities just as they do during an in-person service. Parents/guardians and other household members who normally are not privy to day-to-day classroom and group service discussions agree to respect and keep confidential any personal or private information (e.g. disability status) inadvertently discovered about other students due to proximity of virtual education.

As a reminder, FRCS's Student and Family Handbook and Chromebook Acceptable Use Policy applies to virtual learning, including school-issued devices and networks.

Staffing and Operations

The School will be following the Guidance released from State Public Health Officials, the DESE and the CDC and are doing everything we can to ensure that our school community is safe. Because public health trends are changing every day, we are prepared to transition between 100% Remote and the Hybrid Model at any time. While the guidance from the State encourages schools to welcome students back into our classrooms in the fall, we have made decisions based on our Regional nature of our students and staff. Beginning with 100% Remote Learning will enable staff to test procedures, technology, and other operations before students enter the building. The Hybrid plan will ensure we reduce the number of students in classrooms so that we can meet social distance regulations, and our Phase In approach allows us time to tweak procedures continuously, as needed. Under these circumstances, along with an extra week of professional development training prior to the start of school and professional development opportunities on Wednesday of each week, there is plenty of time to present COVID safety measures, ask and answer questions, review new procedures and strengthen our Remote Learning program.

Training will be provided to staff during Orientation, on up-to-date safety information and precautions including hygiene and other measures aimed at reducing disease transmission, including:

- Social distancing, hand-washing, proper use of face coverings.
- Self-screening at home, including temperature and symptom checks.
- Importance of not coming to work if ill.
- When to seek medical attention if symptoms become severe.
- Which underlying health conditions may make individuals more susceptible to contracting and suffering from a severe case of the virus.

School Personnel may screen staff and students as needed, and as trends change in order to maintain safety.

Daily Assessment of health, if necessary, will include:

- Confirmation that staff members and students are not experiencing any symptoms such as fever (100.0 and above) or chills, cough, shortness of breath, sore throat, fatigue, headache, muscle/body aches, runny nose/congestion, new loss of taste or smell, or nausea, vomiting or diarrhea
- Confirmation that students and staff members have not had “close contact” with an individual diagnosed with COVID-19. “Close contact” means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for 15 minutes or more, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic
- Confirmation that staff or students have not been asked to self-isolate or quarantine by their doctor or a local public health official

- Staff and students who fail to meet the above criteria must be sent home

Additional Safety Precautions in Place

- The School will encourage internal and external meetings to be held virtually to minimize contact across staff and reduce opportunity for transmission.
- No large group or student assemblies will be held until further notice.
- The School will maintain a log of delivery people, parents, and temporary visitors to support contact tracing (name, date, time, contact information)
- Waiting areas will be closed and visitors will be asked to wait outside or in cars until it is time for their appointment or until their child is dismissed.
- Non-essential amenities (materials, supplies, furniture, not necessary for instruction, etc.) will be removed from classrooms, and other common areas.
- For services provided in-home, the School will delay the service or if the family indicates potential COVID-19 positive person in the household.
- Staff may not come in to work if feeling ill.
- If the School is notified of a positive case in any of the buildings, the employer will notify the local Board of Health (LBOH) in Foxborough and assist the LBOH as reasonably requested to advise likely contacts to isolate and self-quarantine. Testing of other staff members may be recommended consistent with guidance and / or at the request of the LBOH.
- Important health information and relevant safety measures as outlined in the Commonwealth's Mandatory Safety Standards for Workplace will be posted publicly for staff.
- The School will be closed on Wednesdays to allow for on-going off-hour sanitation and cleaning
- Visitors and service providers will be limited to on site access to the building.
- Shipping and deliveries will be completed in designated areas.

Additional Safety Precautions in Place

- Visitors and outside vendors will be encouraged to make appointments in advance to receive service or deliver materials if possible.
- The School will offer 100% Remote programming and accommodations for those in high-risk populations as defined by the CDC.

- Staff who are particularly vulnerable to COVID-19 according to the Centers for Disease Control will be encouraged to stay home or have their duties reassigned to reduce contact with staff and students.
- Staff are strongly encouraged to self-identify symptoms or any close contact to a known or suspected COVID-19 case to the School Nurse Leader.
- Staff members who test positive for COVID-19 are required to disclose to the School Nurse Leader for purposes of cleaning / disinfecting and contact tracing.
- Staff members who have been exposed to COVID-19 and are in quarantine and/or waiting on test results, should also notify the School Nurse Leader.

Families First Coronavirus Response Act (“FFCRA”)

Certain employees may be eligible to take time off or to have other accommodations under specific circumstances provided by law. The summary below is written with specific attention to the COVID-19 pandemic and is not intended to be an exhaustive list of all circumstances in which employees may be entitled to time off or accommodations.

Under the **Families First Coronavirus Response Act (“FFCRA”)**, employees may be eligible for paid sick leave and/or expanded family leave for specified reasons related to COVID-19. Unless extended by law, these provisions are applicable until December 31, 2020, when they will expire.

Qualifying reasons for up to two weeks of paid (or partially paid) sick time:

Under the FFCRA, an employee qualifies for up to two weeks of paid sick time if the employee is unable to work (or unable to telework) because the employee:

1. is subject to a Federal, State, or local quarantine or isolation order related to COVID-19;
2. has been advised by a health care provider to self-quarantine related to COVID-19;
3. is experiencing COVID-19 symptoms and is seeking a medical diagnosis;
4. is caring for an individual subject to an order described in (1) or self-quarantine as described in (2);
5. is caring for a child whose school or place of care is closed (or child care provider is unavailable) for reasons related to COVID-19; or
6. is experiencing any other substantially-similar condition specified by the Secretary of Health and Human Services, in consultation with the Secretaries of Labor and Treasury.

This sick time may be paid or partially paid depending on the circumstances of the need for time off.

[*Click here to review more information on the Families First Coronavirus Response Act](#)

Expanded FMLA leave for up to 12 weeks to care for a child:

Employees may also be eligible for up to a maximum of 12 weeks of time off under the Family & Medical Leave Act (“FMLA”) if the employee is unable to work because they must care for a child (under 18 years old) whose school or child care provider is closed or unavailable for reasons related to COVID-19 and there is no other suitable caregiver (e.g., another parent) available to care for the child. This time off is partially paid at two thirds the employee’s regular rate up to a daily maximum of \$200 and \$12,000 in the aggregate. Because this is a form of FMLA leave, the employee may have already used some of the maximum 12 weeks available in the previous 12-month period and may have less than 12 weeks currently available.

Employees with an underlying medical condition:

Employees who are concerned about returning to work because of an underlying medical condition that renders them immunocompromised or otherwise at greater risk of COVID-19 may be eligible for time off or other reasonable accommodation for a disability under the Americans With Disabilities Act (“ADA”). If the employee is a qualified individual with a disability impacted by COVID-19, we will engage in an informal, interactive process in an effort to identify whether there are any reasonable accommodations that would allow the employee to perform the essential functions of their job and that will not pose an undue hardship for the school. Because disabilities and accommodations may take many different forms, each situation will be addressed on a case-by-case basis.

Employees with concerns about safety/health of another:

Another category of employees who may be reluctant to return to work or seeking accommodations are those who are concerned about the safety of others in their household. This could include, for example, employees who live with elderly relatives, young children, or family members who are immunocompromised. Options for these employees are limited and will be addressed on a case-by-case basis with reference to ongoing operational needs of the school.

Make an appointment to discuss your needs:

Should your request for accommodation and/or time off fall under FFCRA or the ADA, we will move forward under the requirements of the law. Should your request fall under another reason, you will work with Human Resources to find resolution to your concerns.

Please reach out to Human Resources to set an appointment to discuss your individual situation.

Recent Travel Ban:

Governor Baker required that effective August 1, 2020, all visitors and returning residents entering Massachusetts must follow new travel orders. The Commonwealth has made great progress to slow the spread of COVID-19 and gradually re-open the economy, and all visitors and residents returning to the state have a responsibility to help us keep transmission levels as low as possible. [Read the full order here.](#)

If you are planning on traveling outside of the areas listed in the link above, within 2 weeks prior to the start of returning to work, you must follow the guidelines of obtaining a negative COVID test or quarantining for 14 days. If you have not been exposed, but must quarantine due to voluntary travel outside of the designated area, this will either be charged to sick time or will qualify for unpaid time off.

Cleaning and Disinfecting

Cleaning and disinfecting is a priority and will be a shared responsibility among facilities staff, external cleaning vendors and an additional responsibility of all staff members to support disinfecting of desks, office space, high traffic areas like door knobs and shared spaces.

The School is committed to new procedures to address sanitation and disinfection of hard surfaces, including:

- Cleaning commonly touched surfaces in restrooms (e.g., toilet seats, doorknobs, stall handles, sinks, paper towel dispensers, soap dispensers) frequently and in accordance with CDC guidelines.
- Conducting frequent cleaning and disinfection of buildings, classrooms and offices (at least daily, and more frequently if feasible).
- Maintaining cleaning logs that include date, time, and scope of cleaning.
- Conducting frequent disinfecting of high traffic areas and high-touch surfaces (e.g., doorknobs, rolling carts, bathrooms)
- Three Electrostatic Sprayers have been purchased to supplement CM Cleaning routine service. Operations Staff will use the sprayers to clean high touch areas as well as to daily disinfect the School's Regional Buses.
- Common areas and frequently touched surfaces should be cleaned daily on arrival.
- Nightly cleaning will be conducted.
- Frequently touched areas will be disinfected regularly though out the day.
- Cleaning supplies will be available, and employees are encouraged to clean and disinfect workspaces and student desks throughout the workday.
- Computer keyboards and any electronics should be wiped with paper towel sprayed with disinfectant.
- DO NOT spray disinfectant directly on electronics.
- Posters should be displayed with reminders on how to prevent the spread of germs.
- Declutter your classroom (Make sure all surfaces are cleared and able to be cleaned readily)

Personal Protective Equipment (PPE):

- PPE including hand sanitizer, spray bottles and disinfectant wipes will be provided to all teaching areas including classrooms and small group pull out spaces, for the start of school.
- Disposable masks, gloves, and gowns will also be available for pre-determined staff due to the nature of their job.
- Staff and students are expected to provide their own cloth face covering.

- Teachers/Staff may request additional supplies or replenish their supplies through entering an FMX ticket. Wipe buckets must be returned with your request for replenishment and will be refilled. Supplies will be stored in the Edward's Conference room in the District office area and will be distributed by request only. It is important to control the inventory so we can order accordingly and proportionately to use.
- N95 masks require fittings and will be available through the school for Nursing staff only.
- K-1 Teachers and staff will be issued face shields.
- Wear gloves when contact with blood, mucous membranes, or non-intact skin could occur.

Especially during:

- Food preparation
- Screening activities requiring contact
- Remove and throw away gloves after caring for a student and do not wear the same gloves with more than one student.
- Wash hands after removing gloves.
- Keep natural nail tips less than 1/4 inch long and avoid artificial fingernails when caring for students.
- Hair should be tied back or covered.
- Gowns should be worn when appropriate.

Positive Case Procedure:

In the event of a positive case, the school will determine which areas of the building will be shut down so the site can be scheduled for a deep cleaning and disinfecting of the classroom/area in accordance with CDC guidance.

Additional Safety Precautions:

- Windows and doors will be opened to increase airflow, where possible.

Large Areas/ Places of Assembly

Playground

- One class may use the playground at a time. Students will remain in their cohort and will wash hands/sanitize before and after recess/break time. Facilities staff will clean playground equipment at the beginning of each day.

Staff Rooms

- Six foot markers will be placed on the floor to designate proper distancing. Keurig, refrigerator, microwave may be used but no chairs will be available to prevent congregating. Sanitizer will be available in staff rooms.
- Furniture removed
- Fridge and microwave still available

Copy Machine/ Mail Area

- Six foot markers will be placed on the floor to designate proper distancing.
- Cleaning supplies will be available for individuals to wipe equipment before and after use.

Bathrooms

- Bathrooms will be monitored and supervised.
- Six foot markers will be placed on the floor to designate proper distancing.
- Hand blowers have been removed and paper towel dispensers have been installed

Computer Labs

- All students will sanitize hands upon entering the computer lab.
- All areas will be wiped with sanitizer between student use.

Cafeteria

- The MS/ HS cafeteria will be reserved for workspace for staff.

Gymnasiums

- All gym classes will be held outside.
- Use of locker rooms
- Shared equipment
- Get from Robyn
- A written plan will be in place for indoor use.
- Otherwise no one will use the gymnasiums

Programming

Extended Day

- Begin registration for Extended Day in September.
- Program will phase in as needed based on grade level attendance in the schedule above.
- The program will look very different. It will be simple and stationary. Room assignments will be mandatory and activity choices will not be available.

Food Service - Lunch / Breakfast

- Families will use the same order system to sign up for the week.
- Both breakfast and lunch must be ordered in advance online.
- Staff will be required to order online in advance.
- Student lunches will be delivered to classrooms.
- Staff will pick up lunch in cafeteria.
- Trash cans will be left outside each classroom door and removed / disposed of immediately following lunch.

Communication

Communication during these uncertain times is paramount. The latest information about current status and Return to School Planning is emailed directly to staff and families and posted to our website and social media.

There is a designated page on the School website for COVID information, resources, news and School plans to address the impact.

Additional Resources and Supports:

- Principals will hold Virtual meetings before the start of school to present the plans and to present an overview of the plan for Remote Learning, at the district level. All families and staff are invited and encouraged to attend.
- Teachers will hold virtual open houses and will talk to parents about setting up effective environments at home for learning as well as a day in the life of remote learning and a day in the life of hybrid learning.
- A Question and Answer Page is set up on the website and Frequently asked questions will continuously be posted for families and staff.
- Parent Ambassadors are set up to help new families navigate the School website, direct them where to address questions, and orient them to the school community.
- Translation for important news regarding COVID Plans will also be included in family emails and posted on the website.
- Ongoing family and staff surveys will be used to capture input as the School opens and moves forward.
- Periodic Zoom Town Halls will be scheduled as the year progresses to keep families informed.
- Virtual Parent Engagement programming and workshops are being set up to support families with educational information, community resources, and parenting workshops.
- Special education students will continue to receive services and/or accommodations during both remote and hybrid instructional models. Written notice of how services/ accommodations will be provided to families will be communicated individually.
- English Language Education will continue to be provided during both our remote and hybrid models. ESL teachers will reach out to families to discuss service delivery,

Interscholastic Athletics

With the recent decision to begin our school year with Full Remote Learning on September 14th, and phase-in the Hybrid Model until November 9th, Foxborough Regional Charter School will not participate in the MCSAO Fall Athletics season. As the situation evolves, we will update students and families with details for plans to safely reintroduce our school's Athletics program.

State Guidance on 2020-21 Modified Sports Seasons

All sports must adhere to the minimum modifications outlined in the EEA guidance to achieve Level 3 play (inter-team competition). If those modifications cannot be met, the sport may consider moving to a later season or adopting a “practice only” model using the EEA cohort method and in alignment with other EEA guidelines. Guidance from EEA will be re-issued prior to the start of each season, based on public health data, testing availability, and any new information, and MIAA will make final decisions for each season following that updated guidance.

Season	Dates	Sports
Fall	Starting Sept. 18	Golf, XC running, field hockey, soccer, gymnastics, girls volleyball, fall swimming/diving, football practice,* cheer practice,* unified basketball practice* *Practice only using EEA cohort modifications : Football, cheer, unified basketball
Winter	TBA by MIAA	Winter gymnastics, boys and girls indoor track, ski, dance, winter swimming/diving, cheer, hockey, basketball, wrestling
Floating season	TBA by MIAA	Sports unable to play in earlier seasons may engage in Level 3 play (competitions) if permitted by updated EEA guidelines. Schools that offered only remote learning in early fall may use this season for play that was missed during their remote schedule.
Spring	TBA by MIAA	Girls golf, baseball, softball, tennis, boys volleyball, girls and boys lacrosse, track and field, rugby

At this time, the sports listed above have been conditionally approved for the fall season, provided they are able to meet the minimum modifications outlined in the EEA guidance. For the fall season football, cheer, and unified basketball will be practice only, using the cohort method described in the [EEA guidance](#). Schools/districts choosing to engage in practice for these sports must complete the [Sport Attestation](#)

[Compliance](#) form and keep it on file.

Higher risk sports in later seasons (including hockey, basketball, wrestling, boys lacrosse, and rugby) will continue to be evaluated in light of health metrics and the EEA guidance and final decisions will be made closer to the start of each season. Those that are ultimately not approved by MIAA to be played in a season will be moved or considered for later in the year during the floating season, as reflected above. All sports, regardless of risk level, must follow the EEA guidelines, and moderate and higher risk sports must adopt the required minimum modifications for achieving different levels of play. To be able to engage in competitive play, modifications should include eliminating deliberate contact, modifying or eliminating intermittent contact, and increasing distancing. If these modifications are not possible, the sport may achieve a modified Level 2 play (competitive practice) using the cohort method outlined in the [EEA guidance](#).

Again, schools/districts choosing to engage in practice for these sports must complete the [Sport Attestation Compliance](#) form and keep it on file. The EEA guidance also outlines best practices for all sports, including the use of protective equipment and masks. The sport specific modifications and plan for implementation will be developed by MIAA in consultation with their medical advisors.

Based on the schedule above, school districts should work with MIAA to develop their schedules for the year and be ready to modify those schedules as needed. More detailed information on the guidelines for practices and the start of competitions will be outlined in the guidance that MIAA will release.

Sports participation for remote learners

Districts designated as “red” based on the [Department of Public Health \(DPH\)’s metric](#) of average daily cases per 100,000 residents and which therefore have their high school students learning remotely at the start of a season, *must postpone their entire season, including practices*, until the floating season later in the year.

Districts designated as yellow, green, or unshaded based on the DPH metric that nonetheless have their high school students learning remotely at the start of a season *may similarly delay their season to the floating season*. If a yellow, green, or unshaded district that is only offering remote learning to its high school students wishes to participate in the regularly scheduled sports season, this must be approved by the local school committee.

The MIAA will develop a timeline for looking at data prior to the start of each season to determine which color-coded designation a district should fall into for the purposes of engaging in sports. For example, the MIAA could determine a school’s color-coded designation/eligibility on September 1 to determine initial eligibility and check again on October 1 to determine if the school remains eligible to participate in the fall season.

Metrics

Massachusetts education officials set coronavirus metrics to help inform school reopening.

Color-coded coronavirus metrics based on case counts in a given community were set by the state education board and will be used to inform school reopening plans, indicating many communities should have remote or hybrid models.

The codes, outlined by Department of Elementary and Secondary Education Commissioner Jeffrey Riley to superintendents are based on a system of red, yellow, green and “unshaded” colors.

Communities in the red zone, those with average daily case counts of eight or more per 100,000 residents should have remote learning, according to the metrics.

Those in the yellow zone, with daily average counts of four to eight per 100,000 residents should operate on a hybrid or remote plan, while communities in the green with less than four cases per 100,000 can have an in-person or hybrid model.

The “unshaded” color code relates most to very small communities with fewer than five total cases over the past two weeks. Communities falling into that category can have in-person learning or hybrid.

Districts are expected to follow the color-coding guidelines for reopening unless there are “extenuating circumstances” identified in consultation with local boards of health.

Districts may make immediate changes to plans based on the metrics or wait for other data reports and allow for further time for consultation before making these updates.

The metrics will serve as a guide to making initial reopening decisions but also for future decision-making if coronavirus conditions change over time.

In addition to the guidelines, districts will also monitor test positivity and take into consideration multiple weeks of data before making any decisions.

The metrics align with a color-coded state map of average daily case rates per 100,000 that was recently released and will be updated on a regular basis by the state.

Foxborough Regional Charter School has unique challenges and does not fit this metric table as easily as single district schools.

The regional nature of the School, as well as K-12 scope, sharing facilities and transportation, adds complicated layers of decision making in order to ensure safety for the community as a whole. FRCS will make decisions guided by the metrics, with special consideration given to each of the 30 individual towns from which our students are enrolled, as well as the impact the fluctuating numbers may present.



FRCS Staff Orientation: 2020 – 2021

Dear Faculty and Staff,

This past year tested us in many ways beyond the norm. From building leadership changes to cyber-terror negotiations to a lengthy school closure to a challenging budget process to a complex planning for an upcoming fully remote school year start....we encountered enough change to last our entire educational careers!

We have also seen and heard the impact of our country's racial and social injustices play out across our state and our school community. These are serious issues with real feelings, perspectives, and impact which continue to highlight the importance of respect and seeking to understand. We must constantly listen and ensure our actions align with our needs; that our impact matches our intent. We will continue to invest time and energy in these efforts to ensure all we do encompasses the needs of all our students.

The challenges we faced this year also give us an opportunity to step outside of our thinking, our experiences, and often times our limited views of situations and problems, and strive for that growth and open mindset that allows flexibility and creativity in finding solutions. We have the responsibility to ask questions, to seek perspectives different than our own experiences, and to rely on others and value them for their knowledge, skills, and experiences. We need to embrace our own love of learning to ensure we are creative and inquisitive, now more than ever.

Before we turn our full attention to orientation, professional development, opportunities to collaborate and plan, and preparations for a new school year, please know how much I appreciate your positive and respectful dialogue and insight these past few months. Team FRCS has continued to shine with resiliency, professionalism, and purpose. Thank you!

I wish you all a wonderful school year.

Sincerely,

Mark

New Teacher Orientation: Wednesday, August 26

Time	Participants	Location	Activity	Facilitator(s)
8:30 – 9:00	All New Staff	MS/HS Cafeteria	Welcome! (Device Distribution for those who need one)	Dr. Mark Logan and Senior Leadership Team
9:15 – 10:15	All New Staff	<p>Via Zoom</p> <p>ES Training https://us04web.zoom.us/j/6669595469?pwd=RWZhZmW1jTnpsUWZhVGo0cEVkOitLQT09 Meeting ID: 666 959 5469 Passcode: 546994</p> <p>MS Training https://us04web.zoom.us/j/6669595469?pwd=RWZhZmW1jTnpsUWZhVGo0cEVkOitLQT09 Meeting ID: 666 959 5469 Passcode: 546994</p> <p>HS Training</p>	Google Classroom Training	Nicole Eby, Michelle Bartucca, Suzanne Booker, Danielle Conway and Roy Pavao

		https://us04web.zoom.us/j/6669595469?pwd=_RWZhZmVhVG00cE_Vk0itLOT09 Meeting ID: 666 959 5469 Passcode: 546994		
10:30 – 11:55	All Staff	ES: Room 105 MS: Cafeteria HS: Room 221 Student Services: Room 213	Breakout Sessions (ropes, evaluation, tours of campus, etc.)	Principals and Lori Obenchain
12:00 – 2:00	All Staff	On your own	Lunch with Mentors and Mentee Training (lunch provided by FRCS)	Karen Corrado
2:00 – 2:30	Pertinent Staff	Krisan Pope's office (behind HS central office)	Complete onboarding process for those who have yet to do so	Krisan Pope

All Staff Orientation Week: Thursday, August 27

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:30	Optional	ES cafeteria MS/HS cafeteria	Distribution of Streams and Breakfast	Ed Lucy and technology team
8:30 – 9:00	All Staff	Via Zoom (please remain in your offices/classrooms) https://us02web.zoom.us/j/6696221082?pwd=KzZVbE5kc10Zz12QWp3eINZbUJnZz09 Meeting ID: 669 622 1082 Passcode: 006406	Welcome Back!	Dr. Mark Logan and Senior Leadership Team

9:00 – 9:30	All Staff	<p>Via Zoom</p> <p>https://us02web.zoom.us/j/6696221082?pwd=KzZVbE5kc1OZzjZQWp3eINZbUJnZz09</p> <p>Meeting ID: 669 622 1082 Passcode: 006406</p>	Human Resources	Krisan Pope
9:30 – 11:30	All Staff	<p>Via Zoom</p> <p>https://us02web.zoom.us/j/6696221082?pwd=KzZVbE5kc1OZzjZQWp3eINZbUJnZz09</p> <p>Meeting ID: 669 622 1082 Passcode: 006406</p>	Covid-19 Safety Guidelines	Cathy Alix
11:30 – 12:00	All Staff	On your own	Lunch (provided by FRCS)	Food Services Staff
12:00 – 2:30	All Staff	Respective offices and classrooms	Declutter and Purge	Matt Harrington and Facilities Team

All Staff Orientation Week: Friday, August 28

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 8:30	All Staff	<p>Via Zoom</p> <p>https://us02web.zoom.us/j/6696221082?pwd=MVhxUXZleXovRnpVWmNtStJick02QT09</p> <p>Meeting ID: 669 622 1082 Passcode: 9KZMMC</p>	Restorative Justice Practices Introduction	Annie Azarloza and Keonna Geer
8:30 – 11:00	All MS Math teachers/ MS SPED/EL teachers	Via Zoom https://us04web	Ready Math Professional Development	Ready Math Consultants

		<p>b.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlVGo0cEVkQitLOt0</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>		
8:30 – 11:30	All ES General Education Staff	Via Zoom/ Classrooms	<p><i>Meetings with grade level bands and Pre-packaging student materials</i></p> <p>Kindergarten and First grade meeting 8:30-9:15: Meeting with Christiana 9:15 – 11:30: Pre-package student materials</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlVGo0cEVkQitLOt0</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p> <p>Second and Third grade 8:30-9:30: Pre-package student materials 9:30 – 10:15: Meet with Christiana 10:15 – 11:30: Pre-package student materials</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlVGo0cEVkQitLOt0</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>	Christiana Benson

			<p>Fourth grade and Specialists 8:30-10:30: Pre-package student materials 10:30 – 11:15: Meet with Christiana 10:15 – 11:30: Pre-package student materials</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLOT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>	
<p>8:30 – 11:30</p>	<p>All MS/HS General Education Staff</p>	<p>Via zoom for instructions only https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLOT09 Meeting ID: 666 959 5469 Passcode: 546994</p>	<p>Open House Videos and pre-package materials for student pick-up</p>	<p>Mike Cournoyer and Ben Dyer</p>
<p>11:00 – 11:30</p>	<p>MS Math teachers</p>	<p>Via Zoom for instructions only https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLOT09</p>	<p>Open House Videos</p>	<p>Ben Dyer</p>

		Meeting ID: 666 959 5469 Passcode: 546994		
11:30 – 12:00	All Staff	Via Zoom 3 zooms by school ES Training https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlhVGo0cEVkQitLOT09 Meeting ID: 666 959 5469 Passcode: 546994 MS Training https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlhVGo0cEVkQitLOT09 Meeting ID: 666 959 5469 Passcode: 546994 HS Training https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZlhVGo0cEVkQitLOT09	Lunch (on your own)	
12:00 – 1:00	All Staff		Google Classroom Training	Nicole Eby, Roy Pavao, Danielle Conway, Michelle Bartucca, and Suzanne Booker

		9595469?pwd=RWhZMmW1jTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994			
1:00 – 2:30	All Staff	Classrooms/offices	Continue Declutter/Purge and Planning MS Math teachers to pre-package materials for student pick-up		

All Staff Orientation Week: Monday, August 31

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 9:15	All Staff	Via Zoom (3 zooms by schools) ES https://us04web.zoom.us/j/6669595469?pwd=RWhZMmW1jTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994 MS https://us04web.zoom.us/j/6669595469?pwd=RWhZMmW1jTnpsUWZhVGo0cEVkQitLQT09	Staff meetings	Principals

		<p>W1jTnpsUWZhVGo0cEVkQitLQT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p> <p>HS</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMlR1TnpSUWZlVGo0cEVkQitLQT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>		
<p>9:20 – 10:30</p>	<p>All Staff</p>	<p>Via Zoom (3 zooms by schools) ES</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMlR1TnpSUWZlVGo0cEVkQitLQT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p> <p>MS</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMlR1TnpSUWZlVGo0cEVkQitLQT09</p>	<p>Observation and Evaluation during Remote</p>	<p>Principals</p>

		<p>Meeting ID: 666 959 5469 Passcode: 546994</p> <p>HS</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMlWlTnpsUWZhVG0cEVkQitLQT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p> <p>Via Zoom</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMlWlTnpsUWZhVG0cEVkQitLQT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>		
10:45 – 12:00	All MS Staff		MAP online training	Kathleen Foley
12:00 – 12:30	All Staff	Lunch (on your own)		
12:30 – 1:30	All Staff	<p>Via Zoom</p> <p>https://us02web.zoom.us/j/6696221082?pwd=MVhxUXZleXovRnpVWmNtStJjcko2QT09</p> <p>Meeting ID: 669 622 1082 Passcode: 9KZMMC</p>	Professional Learning Communities	Christiana Benson and Amanda Goddard

<p>1:30 – 2:30</p>	<p>All Staff</p>	<p>Via Zoom (3 zooms by schools) ES https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994</p> <p>MS https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994</p> <p>HS https://us04web.zoom.us/j/6669595469?pwd=RWhZMw1jTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994</p>	<p>Remote Learning Expectations</p>	<p>Principals</p>
--------------------	------------------	---	-------------------------------------	-------------------

All Staff Orientation Week: Tuesday, September 1

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 11:15	All SPED Staff	Via Zoom https://us04.web.zoom.us/j/6669595469?pwd=RWhZMlVhTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994	Developing learning plans for special education students	Lori Obenchain and Deirdre West-Smith
8:15 – 9:15	All General Education Staff	Via Zoom (3 zooms by school) ES https://us04.web.zoom.us/j/6669595469?pwd=RWhZMlVhTnpsUWZhVGo0cEVkQitLQT09 Meeting ID: 666 959 5469	Lesson Planning Workshop	Principals

9:15 – 10:15	All Staff	<p>Passcode: 546994</p> <p>MS</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZhVGo0cEVkQitLOT09</p> <p>Meeting ID: 666 959 5469</p> <p>Passcode: 546994</p> <p>HS</p> <p>https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZhVGo0cEVkQitLOT09</p> <p>Meeting ID: 666 959 5469</p> <p>Passcode: 546994</p>	<p><i>Please choose one of the 3 workshops:</i></p> <p><i>Engaging ELs during Remote Learning Workshop</i> https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZhVGo0cEVkQitLOT09</p>	Molly Clark and Meghan Roberts
--------------	-----------	---	---	-----------------------------------

				Meeting ID: 666 959 5469 Passcode: 546994	Emily Quinlan and Melissa Leverett-King
				SEI Strategies Workshop https://us04web.zoom.us/j/6669595469?pwd=RWZMZW1jTnpsUWZhVGo0cEVkQitLQT09	
				Meeting ID: 666 959 5469 Passcode: 546994	Jill Abrams and Stephanie Fincher
				Acknowledging our Students' Cultures Workshop https://us04web.zoom.us/j/6669595469?pwd=RWZMZW1jTnpsUWZhVGo0cEVkQitLQT09	
				Meeting ID: 666 959 5469 Passcode: 546994	
10:30 – 11:30	ES Student Support team (counselors, nurses, dean)	Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWZMZW1jTnpsUWZhVGo0cEVkQitLQT09	Meeting ID: 666 959 5469 Passcode: 546994	Student Support Team Meeting	Christiana Benson
11:30 – 12:00	All Staff	On your own		Lunch	
12:00 – 2:30	All Staff	Via Zoom https://us02web.zoom.us/j/6696221082?pwd=MVhXUXZleXovRnpVWmNtS		Restorative Justice Practices Training	Keonna Geer

		Tljcko20T09		
		Meeting ID: 669 622 1082 Passcode: 9KZMMC		

All Staff Orientation Week: Wednesday, September 2

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWZhZmV1jThpsUWZhVGo0cEVkQjtlQT09 Meeting ID: 666 959 5469 Passcode: 546994	Breakfast	Food Services Staff
8:15 – 10:15	All MS ELA and MS SPED/ELE teachers	Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWZhZmV1jThpsUWZhVGo0cEVkQjtlQT09 Meeting ID: 666 959 5469 Passcode: 546994	ELA units/collaboration	Kathleen Foley
8:15 – 10:15	MS/HS Adjustment Counselors	Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWZhZmV1jThpsUWZhVGo0cEVkQjtlQT09 Meeting ID: 666 959 5469 Passcode: 546994	Counseling Meeting	Lori Obenchain
8:15 – 9:15	All HS Staff	Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWZhZmV1jThpsUWZhVGo0cEVkQjtlQT09	Honors protocols for the year	Mike Cournoyer

			tLQT09 Meeting ID: 666 959 5469 Passcode: 546994 Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994			
9:20 – 10:00	All HS Staff		Via Zoom https://us02web.zoom.us/j/6696221082?pwd=MVhXUXZleXovRnpVWmNtSTljcko2QT09 Meeting ID: 669 622 1082 Passcode: 9KZMMC		LEGO	Shawn Gudmundson
10:15 – 10:45	All Staff		Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994		Business office procedures	Karen Calvert
10:45 – 11:30	All HS Staff including HS SPED/ELE staff		Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLQT09 Meeting ID: 666 959 5469 Passcode: 546994		Instructional rounds, how to be a good colleague during remote and hybrid, who's doing what (nurse, school culture, guidance, etc.)	Mike Cournoyer
10:45 – 11:30	All MS Staff and MS SPED/ELE teachers		Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMW1jTnpsUWZHVGo0cEVkQitLQT09		MS Workshop	Ben Dyer

		Meeting ID: 666 959 5469 Passcode: 546994		
11:30 – 12:00	All Staff	On your own	Lunch	
12:00 – 2:30	All staff	Classrooms/offices	Planning	

All Staff Orientation Week: Thursday, September 3

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 9:25	All Staff	Via Zoom https://us02web.zoom.us/j/6696221082?pwd=MVhxUXZleXoVRnpVWmNtSTJjcko2QT09 Meeting ID: 669 622 1082 Passcode: 9KZMMC	<i>We all see color!</i> Workshop on Equity and Inclusion	Nancy LeBlanc, Keonna Geer and Nikole Skoko
9:30 – 10:30	All Staff	Via Zoom https://us02web.zoom.us/j/6696221082?pwd=MVhxUXZleXoVRnpVWmNtSTJjcko2QT09 Meeting ID: 669 622 1082 Passcode: 9KZMMC	Multi-tiered System of Supports	Mike Cournoyer
10:45 – 12:00	All Staff	Via Zoom to start https://us02web.zoom.us/j/6696221082?pwd=MVhxUXZleXoVRnpVWmNtSTJjcko2QT09 Meeting ID: 669 622 1082 Passcode: 9KZMMC	Common Planning and Collaboration	Principals
12:00 – 12:30	All Staff	On your own	Lunch	

12:30 – 1:30	All ELE and SPED Staff	<p>Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMWh1TnpsUWZhVGo0cEVkOitLOT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994</p>	Staff Meeting	Lori Obenchain
12:30 – 2:30	All ES, MS and HS General Ed Staff	Via Google Hangout (Roy to send link/invite to all staff)	Training on live streaming classes	Roy Pavao

All Staff Orientation Week: Friday, September 4

Time	Participants	Location	Activity	Facilitator(s)
8:00 -2:30	All Staff		Take the day off and get a head start on the long weekend!	

All Staff Orientation Week: Tuesday, September 8

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 11:00	Non-Instructional Support Staff (Counselors, deans, nurses, culture liaisons)	<p>Via Zoom https://us04web.zoom.us/j/6669595469?pwd=RWhZMWh1TnpsUWZhVGo0cEVkOitLOT09</p> <p>Meeting ID: 666 959 5469 Passcode: 546994 P</p>	District-wide Planning (events, programs, etc.)	Dave Elsner
8:15 – 2:30 Lunch: 11:30-12:00	All Staff	Classrooms and offices	Testing live streaming Preparing for first day of remote	Matt Harrington and Ed Lucy

All Staff Orientation Week: Wednesday, September 9

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 2:30 Lunch: 11:30 – 12:00	All Staff	Classrooms and offices	Testing live streaming Preparing for first day of remote	Matt Harrington and Ed Lucy

All Staff Orientation Week: Thursday, September 10

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 2:30 Lunch: 11:30 – 12:00	All Staff	Classrooms and offices	Testing live streaming Preparing for first day of remote	Matt Harrington and Ed Lucy
1:30 – 2:00	All ES Staff	Classrooms (Zoom) Set up own zooms	Virtual Meet the Teacher	Christiana Benson
2:00 – 2:30	All ES Staff	Classrooms (Zoom) Set up own zooms	Virtual Meet the Teacher (for those parents who have more than one ES student)	Christiana Benson

All Staff Orientation Week: Friday, September 11

Time	Participants	Location	Activity	Facilitator(s)
8:00 – 8:15	All Staff	ES cafeteria MS/HS cafeteria	Breakfast	Food Services Staff
8:15 – 2:30 Lunch: 11:30 – 12:00	All Staff	Classrooms and offices	Testing live streaming Preparing for first day of remote	Matt Harrington and Ed Lucy

**Foxborough Regional Charter School
2020-2021 New Faculty and Staff**

<u>Position</u>	<u>School</u>	<u>New Employee</u>
Director of School Culture and Climate	District	Keonna Greer
Grade 3 Teacher	Elementary School	Casey Goodman
School Culture Liaison	Middle School	Judith Belfleur
Grade 5 ELA Teacher	Middle School	Crosby Semeraro
Grade 6 ELA Teacher	Middle School	George Eddis
Grade 6 Social Studies Teacher	Middle School	Lauren Toner
Grade 8 Math Teacher	Middle School	David Hindman
Grade 8 Math Teacher	Middle School	Jaynemie Dundulis
Grade 8 ELA Teacher	Middle School	Teresa Yoder
HS Spanish Teacher	High School	Rene Altamar
MS Spanish Teacher	Middle School	Teresa Andrade Borja
Art Teacher Elementary School	Elementary School	Emily Long
Paraprofessional HS Academic Support	Student Services	Caitlin Marshall
Special Education Teacher ES - Grade 3	Student Services	Brianne Federico
Special Education Teacher MS - Academic Support	Student Services	Brittany Maher
ES Grade 3 ELE Teacher	Student Services	Jennifer Johnson
Grade 8 Social Studies Teacher	Middle School	Kathryn Mulvoy
Grade 3 Teacher	Elementary School	Lauren Mason
Special Education Teacher - HS	Student Services	Rafael Garcia
HS Spanish Teacher	High School	Laura Walker
MS Spanish Teacher	Middle School	Victor Donaire
Grade 4 Teacher	Elementary School	Brianne Akers
Grade 7 Science Teacher	Middle School	Rebecca Green
Paraprofessional - MS	Student Services	Hannah Patalano

In addition to welcoming two new members, Keonna Geer, our new Director of School Climate and Culture, and HS junior, Kusumita Savaram, the Committee focused much of the discussion on the work of the Professional Development Subcommittee:

1. Annie Azarloza is working with Rapid Learning on their 4 hour virtual program for our staff called Unconscious Bias: Fostering Inclusion, which is designed to increase awareness, shift perspectives and define action steps that will make our culture more inclusive.
2. Nikole Skoko, our HS Culture Liaison is attending Cornell University's Equity and Inclusion 9 month course, where she will then be able to bring that knowledge back to FRCS and train our instructional staff.
3. Nikole Skoko has been working with the Glasgow Group, which is a consortium of consultants providing skills, tools, and experiences through a lens of diversity, equity, and inclusion that enhance and deepen schools', organizations', and individuals' capacity for transformation. We hope they can provide PD to our staff and also engage our students.
4. Amanda Goddard, our Assistant Director of Student Services (English Language Education), has been working with Dr. DT Henry on his series of PD for our staff: Race & Diversity for White and Non-Black People Seeking Change.
5. We are in our second year of District-wide Professional Development Initiative: Universal Design Learning. Each year we train 15-20 teachers on UDL. UDL provides all students an equal opportunity to succeed. It offers flexibility in ways students access material and show what they know. Our 15 teachers this year will attend 26 trainings on UDL.
6. Thanks to Keonna Geer, our new Director of School Climate and Culture, who is an expert in Restorative Justice, we have decided to move in the direction of 100% Restorative Justice practices in an effort to step away from punitive measure of discipline, which have shown to disproportionately affect minorities. Staff have been fully trained and we will implement it across our district with fidelity this coming school year.
7. Last Friday our Math consultants came in to provide PD to our MS math teachers as we roll out our new Math curriculum. Ready Math is designed to provide equal access to our teachers and lends itself to culturally responsive pedagogy.
8. Kathleen Foley, our new K-12 Curriculum Specialist, is in her second year of running a yearlong Equity and Inclusion course for our instructional staff. We will be offering an accelerated version of this course next summer in an effort to have all instructional staff trained in the next 3 years.
9. Nikole Skoko, Keonna Geer, and Nancy LeBlanc, our HS guidance counselor will be running a workshop this week called *We All See color!*, a diversity, equity and inclusion workshop for all staff that brings to light implicit bias and how we can learn to be cognizant that exists as we learn to shift the way we think.
10. Yesterday Amanda Goddard along with six other General Education and English Language Education teachers offered staff three workshops: 1) *Engaging English Language Students During Remote Learning*; 2) *Sheltered English Immersion Strategies Workshop*; and 3) *Acknowledging our Students' Cultures*.

The next EI meeting will be on Wednesday, September 30, 2020 at 8:30 a.m.